

A TECHNICAL HANDBOOK TO FIRE STOPPING OF SERVICE PENETRATIONS



The best choice to protect against the spread of fire

### **Foreword**

The contribution to building protection by installed fire stopping products is often underestimated by businesses. The media very rarely reports on the reduction in the effects of fires in compartmentalised buildings, even though thousands of lives and the buildings themselves are saved each year. I guess there's nothing to write about when the destructive impact of a fire is prevented. Compartmentalisation works by preventing fire spreading and causing horrendous injury or death to human beings or animals and untold damage to buildings. One often reads about the heroics of fire departments or that the fire was arrested by the sprinkler system but rarely is it attributed to compartmentalisation. Why is that? Is it too complicated to be considered? Of course not, it is an easy and cost effective way to protect a building against the spread of smoke and fire. I wrote this book to demonstrate the ease and effectiveness of compartmentalisation, and to raise awareness of the short movies showing the installation in real time (available on YouTube, just search for Protecta).

Time is the reason compartmentalisation is the most effective method to use against fire spread today. A fire can spread so quickly that it is impossible for any fire department to quickly extinguish it without causing large scale damage to the building. Fire can spread so fast in residential homes that the whole house can burn down before the fire department arrives. Isolating rooms where fires are more likely, reduces the effects of fire on the rest of the building and increases the time the fire fighters have to put it out before it spreads. A fire compartment can be designed to restrain a fire for 60 minutes, which could be sufficient time to evacuate the building safely, for the fire department to arrive and to extinguish the fire, that is if the fire does not burn out on its own due to lack of oxygen,

material, or both. Compartmentalisation is not the only consideration. Compartmentalisation of rooms where fires are likely should also take into account where the occupants are located, and their numbers; the types of activities being performed on the premises; the fire evacuation route; the fire alarm system and other systems linked to the fire alarm. This is evident in the designs the architect has incorporated into our new factory which were built in Huddersfield city centre. Without my important modifications to the original plans, the whole site would be exposed to unnecessary and preventable risk from fire and the following consequences: employees would be exposed to the dangers of an evacuation through smoke filled corridors that would disorientate and impede the evacuation leading to possible loss of life; the building itself would be unusable and even unsafe and could be condemned; the business would lose its manufacturing capability leading to loss of business in the short term and/or even the possible closure in the long term.

Polyseam has for the last 26 years developed products to simplify the installation of fire stopping of service penetrations. Solutions to problems do not have to be complicated, expensive and time-consuming, instead Polyseam offers simple solutions designed and tested in apertures and services as installed in real situations and solved through complicated chemistry. Who are we to tell the construction business how to insulate a pipe, or cut a hole in a gypsum wall? No! It is better for the construction business to have solutions adapted to meet their requirements for products, installation and performance.

I truly hope this handbook, and all the other things we are doing, can be useful so that we build safely in the future.

Kjetil Bogstad Handbook editor & CEO of Polyseam

# Content

| Which products should be used where?                            |                 |
|---|-----------------|
| Linear seals  | Page 4          |
| Penetrating services  |                 |
| General rules to fire classifications                           |                 |
| Aperture sizes and allowed services                             | Page 6          |
| Additional aperture sizes in floors                             |                 |
| Service sizes   | Page 7          |
| Fire classifications; what do they mean?                        | Page 8          |
| Pipe end configurations   | Page 9          |
| Surrounding constructions                                       | Page 10         |
| Supporting constructions and service supports                   | Page 11         |
| Mixed services within the same aperture                         | Page 11         |
| Normal on-site problems and solutions                           |                 |
| Single sided access   | Page 12         |
| Restrictive fire seals and the pattress solution                | Page 13         |
| Frequently asked questions                                      | Page 14 – 16    |
| Technical solutions   |                 |
| Appendix I – Linear seal solutions                              | Pages 17 – 39   |
| Appendix II – Service penetration solutions with gaps ≤ 10mm    | Pages 40 – 66   |
| Appendix III – Service penetration solutions with gaps ≤ 30mm   | Pages 67 – 149  |
| Appendix IV – Service penetration solutions in larger apertures | Pages 150 – 240 |
| Appendix V – Apertures with mixed services                      | Pages 241 – 27  |
| Index to technical solutions                                    | Pages 278 – 282 |

# Which products should be used where?

In most cases, the type of product chosen depends on the size and configuration of the seal or aperture to be fire protected, the construction type and the type of services (if any) that penetrates the construction. This can be simplified by saying that where there are no gaps or gaps less than 10mm, the putty cord product or collars are used, small gaps above 10mm a sealant is normally used and for larger apertures the board and mortar products are used. These solutions are given in general in the two following tables, and the details are given in the technical appendixes found in this handbook, which can easily be located using the index on the last pages.



Typical sample of penetrating services with gap widths between 0 and 10mm



Typical sample of penetrating services with gap widths between 10 and 30mm



Typical sample of penetrating services with gaps above 30mm or mixed services

### **Product Selector - Linear Seals**

| Properties                    | Construction     | Seal Size          | Product             |
|-------------------------------|------------------|--------------------|---------------------|
| Normal                        | Walls and floors | Up to 100mm wide   | Protecta FR Acrylic |
| Water proof and high movement |                  | Up to 30mm wide    | Protecta FR IPT     |
| Extra wide with some movement | Walls            | Up to 1,200mm wide | Protecta FR Board   |
|                               | Floors           | Up to 800mm wide   |                     |
| Extra wide and loadbearing    |                  | Up to 800mm wide   | Protecta EX Mortar  |

# **Product Selector - Penetrating Services**

| Seal Size               | Construction     | Services  | Protecta Product(s)                  |
|-------------------------|------------------|---|--------------------------------------|
| Gap between             | Walls and floors | Cables  | FR Putty Cord                        |
| 0 and 10mm              |                  | Metal pipes; un-insulated or mineral wool insulations | <del></del>                          |
|                         |                  | Metal pipes; combustible insulations                  | FR Collar                            |
|                         |                  | Plastic pipes   | <del></del>                          |
|                         |                  | Ventilation ducts                                     | FR Putty Cord & FR Damper            |
| Gap between             | _                | Cables  | FR Acrylic                           |
| 10 and 30mm             |                  | Metal pipes; un-insulated or mineral wool insulations | <del></del>                          |
|                         |                  | Metal pipes; combustible insulations                  | FR Acrylic & FR Graphite             |
|                         |                  | Plastic pipes   | FR Acrylic, FR Graphite or FR Collar |
|                         |                  | Ventilation ducts                                     | FR Acrylic & FR Damper               |
| Gap above               | Walls            | Cables and cable trays                                | FR Board                             |
| 30mm and mixed services |                  | Metal pipes; un-insulated or mineral wool insulations |                                      |
|                         |                  | Metal pipes; combustible insulations                  | FR Board & FR Pipe Wrap              |
|                         |                  | Plastic pipes   |                                      |
|                         |                  | Ventilation ducts                                     | FR Board & FR Damper                 |
|                         | Floors           | Cables and cable trays                                | EX Mortar                            |
|                         |                  | Metal pipes; un-insulated or mineral wool insulations |                                      |
|                         |                  | Metal pipes; combustible insulations                  | EX Mortar & FR Pipe Wrap             |
|                         |                  | Plastic pipes   | <del></del>                          |
|                         |                  | Ventilation ducts                                     | EX Mortar & FR Damper                |

### General rules to fire classifications

### **Aperture sizes and allowed services**

The technical drawings in this handbook show the maximum size allowed of any aperture or linear seal as tested, and as shown also in the product's installation instructions. The maximum allowed cross sectional area of a rectangular aperture, can be used to calculate the maximum allowed cross sectional area of a circular aperture, simply calculate the size in for instance cm<sup>2</sup> and then use this to calculate the allowed diameter (Ø):

```
A rectangular aperture of 1200 x 2400mm would have a cross sectional area (A) 28,800cm<sup>2</sup> radius = V(A/\Pi) = V(28,800/3,14) = V9172 = 96cm Ø = radius \times 2 = 96x2 = Ø192cm
```

An approval for a circular aperture is not allowed to be used in a rectangular aperture. The total amount of cross sectional area occupied by services (including insulation) should not exceed 60% of the penetration cross sectional area.

### Additional aperture sizes in floors

Under EN 1366-3 rules, results from tests in floors with a penetration seal length of minimum 1m apply to any length as long as perimeter length to seal area ratio is not smaller than that of the test specimen. The following aperture sizes are therefore allowed where 2400 x 1200 mm is described in this handbook and in the products installation instructions.

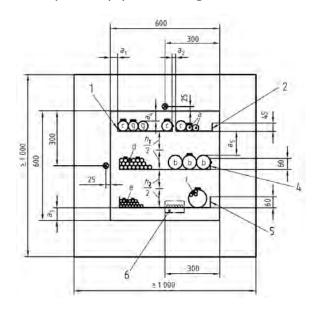
| Maximum Aperture Sizes within Floors or between Floors and Walls |  |
|--|--|
| 1200 mm width x 2400 mm length (tested)                          |  |
| 1100 mm width x 2900 mm length (allowed)                         |  |
| 1000 mm width x 4000 mm length (allowed)                         |  |
| 900 mm width x 7000 mm length (allowed)                          |  |
| ≤ 800 mm width x ∞ (infinite) length (allowed)                   |  |

### **Service sizes**

The test standard (EN1366-3) groups services to be tested for approval. For instance, all cables in the group up to a certain diameter must be tested otherwise, approval is only granted for the exact specimen tested, and this has no practical value.

For cables, there are many groups to test to obtain full approval. For example to obtain approval for all cables up to 21mm diameter, it is necessary to test the following cables: type A1, A2, A3 (A cables are 5 x 1.5mm²) and B (1 x 95mm²). The position of the cables in the test is also subject to how the cables are allowed to be positioned in practical. The testing of cables on cable trays normally consists of 4 cable trays packed with different types of cables, wires and conduits.

Our specifications for installation are simplified to allow the installation to be performed correctly and with the least complexity, however testing to achieve the specifications is anything but simple. In general we specify service sizes with the symbol ≤ in front. Without this symbol, the size of the service is exactly as specified. The same can be said for pipes. For metal pipes testing consists of a certain design group which includes pipe diameter and wall thickness. However, where we do not specify this, it is because we have tested all the different wall thicknesses available. For plastic pipes testing also includes the different plastics, eg: PVC, PE and so on.



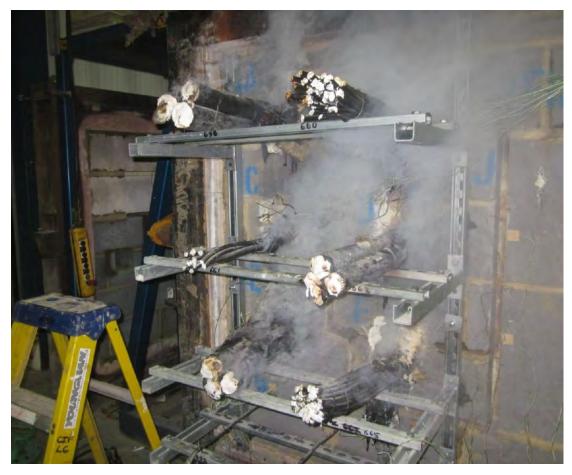
Example of standard configuration for cable penetration systems according to EN 1366-3

### Fire classifications; what do they mean?

In Europe we all use the same system to classify fire resistance, not only in fire stop seals, but also in walls, floors, doors and so on. In fire stopping, only a few letters are used to indicate the result and what protection the installation gives.

**E** - **Integrity**, the time it takes for fire to physically spread through a fire seal. At the point of failure one can see the glow of the fire through the seal, flames coming through or via a cotton pad which catches fire when held close to the seal by the test technician. This is the simplest classification to achieve.

I - Insulation, the temperature, measured on the non-fire side has increased by 180°C on either the fire seal or the services. This is measured through many thermocouples placed in strategic locations. The intention is to replicate the lowest possible temperature that can actually start a fire, even though the fire itself has not passed through the fire seal. This is the more difficult classification to achieve.



Picture shows a fire test after 2 hours at BM Trada in UK

In most European countries, there is a demand that the fire classification should include both integrity E and insulation I. However, if the fire seal is in an area where no combustible material are close by, and no combustible materials are likely to be placed closed by, an engineering judgment could be taken to approve usage of the integrity classification only. This is why we state both classifications in this handbook.

The letters are followed by a number, which is how long in minutes the integrity and insulation were maintained. For instance, the classification **E 60** is integrity for one hour, whilst **EI 120** is both integrity and insulation for two hours.

### Pipe end configurations

When testing pipes, one can choose not to cap (or close) or to cap the pipe inside or outside the furnace. The configuration chosen depends on the intended application of the pipe and/or the installation environment. The code defining if a pipe is capped is stated after the fire classification. For instance EI 60 C/U means the pipe was capped inside the furnace, and uncapped outside the furnace.

### Field of application rules for pipe end configuration:

|         | Tested |     |     |     |     |
|---------|--------|-----|-----|-----|-----|
|         |        | U/U | C/U | U/C | C/C |
| Covered | U/U    | -   | NO  | NO  | NO  |
|         | C/U    | YES | -   | NO  | NO  |
|         | U/C    | YES | YES | -   | NO  |
|         | C/C    | YES | YES | YES | -   |

### Our engineering judgment based on EN 1366-3:2009:

| Intended use of pipe                                       |                        | Pipe end condition   |
|--|------------------------|----------------------|
| Rainwater pipe, plastic                                    | At drainage            | U/U <sup>1)</sup>    |
|  | Not at drainage        | C/C <sup>2)</sup>    |
| Drainage or sewage pipe, plastic                           | Ventilated drain       | U/U <sup>1)</sup>    |
|  | Unventilated drain     | U/C 1)               |
|  | Drain w/water trap     | U/C 1)               |
|  | Not at drainage        | C/C <sup>2)</sup>    |
| Pipe in closed circuit (water, gas, air, electricity etc.) |                        | C/C <sup>2) 3)</sup> |
| Flue gas recovery system pipe, plastic                     |                        | U/C 1)               |
| Pipe with open ends and ≥ 50cm length                      | on both sides, plastic | U/U <sup>2)</sup>    |
| Pipe supported by suspension system,                       | Fire rated support     | C/U <sup>1)</sup>    |
| metal  | Non-fire rated         | U/C 1)               |
| Waste disposal shaft pipe, metal                           |                        | U/C 1)               |



<sup>&</sup>lt;sup>1)</sup> Stated in EN 1366-3:2009. <sup>2)</sup> Polyseam's judgment based on tests. <sup>3)</sup> Metal pipes should have fire rated support.

### **Surrounding constructions**

The wall or floor construction used in a test will limit the scope of certification. The general rule is that the wall or floor thickness tested will be the minimum allowed thickness of the wall or floor. Also, if a gypsum (flexible) wall is tested then approvals for a concrete/masonry wall are also obtained, but not the other way around. So if only concrete/masonry walls have been tested, the test data cannot be used for a gypsum wall. Certifications for floors are only possible by performing floor tests, and this test data cannot be used to obtain certification for walls.

The standard **flexible wall** constructions specified in the test standard are:

| Nominal minimum overall thickness in mm | Thickness of gypsum board EN 520 Type F in mm |   | Indicative fire resistance in minutes |
|---|---|---|---------------------------------------|
| 69 - 75                                 | 12.5  | 1 | 30                                    |
| 94 - 100                                | 12.5  | 2 | 60                                    |
| 94 - 100                                | 12.5  | 2 | 90                                    |
| 122 - 130                               | 15.0  | 2 | 120                                   |

The standard **rigid wall** constructions specified in the test standard are:

| Thickness of aerated concrete<br>(650 +/- 200) kg/m³ in mm | Indicative fire resistance in minutes |
|--|---------------------------------------|
| 75 +/- 10  | 30                                    |
| 100 +/- 10   | 60                                    |
| 125 +/- 10   | 90                                    |
| 150 +/- 10   | 120                                   |
| 175 +/- 10   | 180                                   |
| 200 +/- 10   | 240                                   |



The standard construction for **concrete floors** shall have a density of (650 +/- 200) kg/m<sup>3</sup> and a thickness of 150mm.

### **Supporting constructions and service supports**

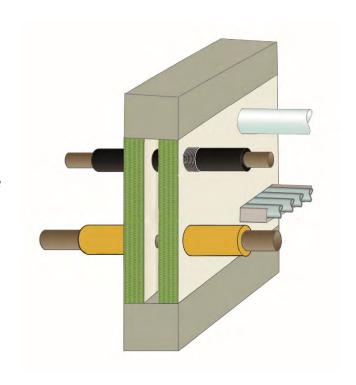
The supporting constructions (fire rated walls and floors) should be classified in accordance with EN 13501-2 for the required fire resistance period.

Services in floors should have the first support located 250mm from the top face, and services in walls should have the first support located 270mm from both faces of the wall. Thereafter the services should be supported according to the support system manufacturer's installation instructions.

### Mixed services within the same aperture

The systems, Protecta FR Board and Protecta EX Mortar, may be used to provide a penetration seal with cables, cable trays, metallic pipes, ventilation ducts, composite pipes and plastic pipes, with and without insulation, with mixed services within the same seal/aperture. The technical solutions in the following pages can be combined where the fire seals are built the same, however, the fire and sound classifications will for the whole seal be no better than the lowest classification given on any through service, what we term 'worst-case-scenario'.

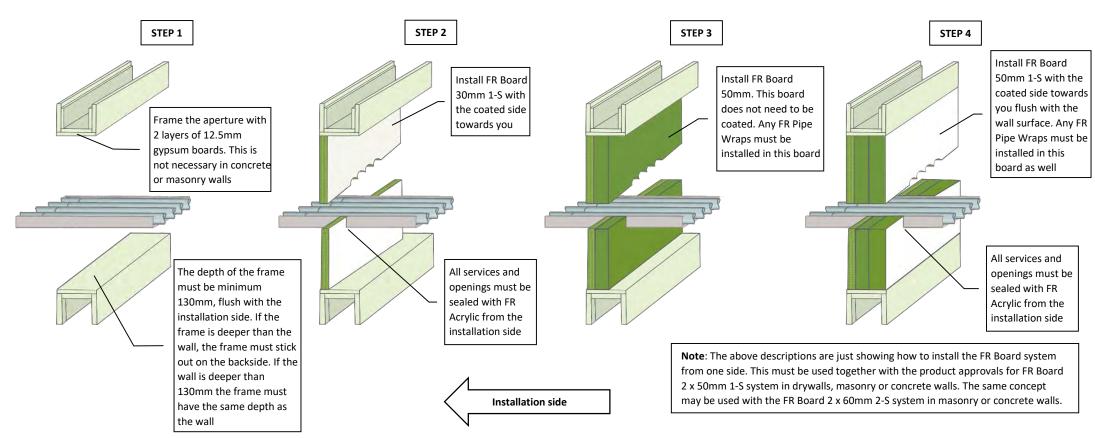
The technical solutions on the last pages of this handbook are for mixed services, but do not include all the different options and are provided as a quick guide. Here you can select the fire resistance and see what fire stopping system you require for a whole group of services, this simplifies the engineering and is of course very useful and helpful.



## Normal on-site problems and solutions

### Single sided access

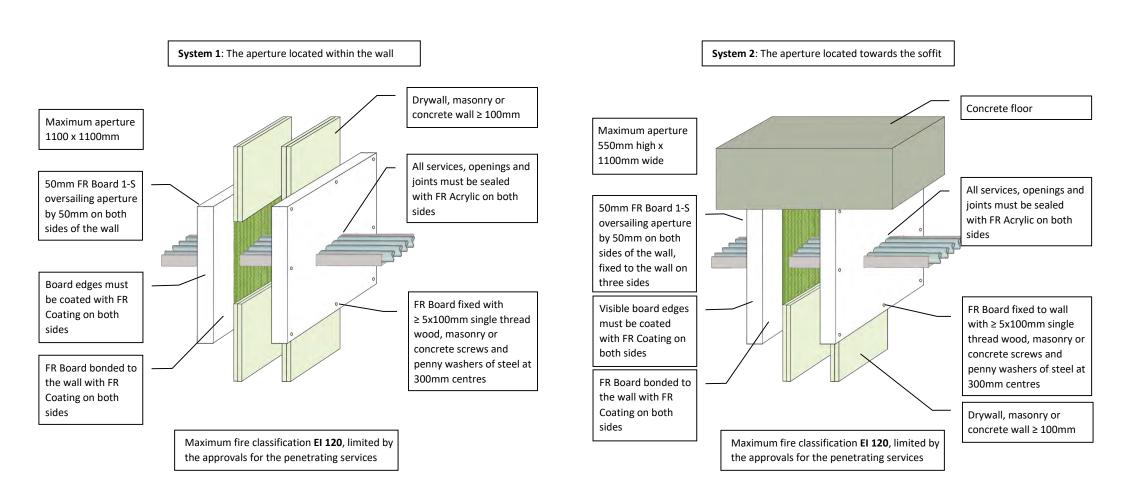
On construction sites there may be cases where an aperture for a fire seal that is to be installed is only accessible from one side. With many of the Protecta® products this scenario is already tested, certified and included in this handbook, but one issue is the Protecta FR Board system which requires the sealing of gaps from both sides of a wall after insertion. However this is solvable by using an additional inner board with the coating facing towards the installer; it will result in the same fire seal as the certified solutions. Below are the detailed descriptions and this is especially useful with risers or shafts with gypsum boards on only one side.



### Restrictive fire seals and the pattress solution

Some fire seals in walls can be restrictive, so it is difficult to insert the different pieces of the Protecta FR Board. Therefore Polyseam has tested a pattress system, where the boards are installed on the surface of the wall instead of inside the aperture. This is then an additional way of fixing the boards, but the fire classifications will still be limited to the different services given in this handbook, for drywalls with the system 2 x 50mm 1-S. Furthermore, any FR Pipe Wraps must be included.

There are two ways the pattress system can be installed, as follows:



### FAQ's

#### **GENERAL**

**Q**: What certifications are available?

**A**: The Protecta® fire stopping range has ETA certifications and the CE-mark for Europe and Africa, UL-EU International certifications for Asia and South America and local certifications for the United Arab Emirates, New Zealand and Australia.

**Q**: Where are the products manufactured?

**A**: The Protecta® range is manufactured at the Polyseam factory in Huddersfield, United Kingdom.

#### **CONSTRUCTIONS**

**Q**: I am doing a fire seal in a drywall with calcium silicate boards and not normal gypsum boards, is that ok?

**A**: Yes, as long as the wall is classified according to EN 13501-2 for the required fire resistance period, and the wall thickness is equal or greater than the approval for the fire stopping product.

 ${f Q}$ : I have a fire seal in a floor, can I use the approvals for a drywall?

**A**: No. The EuroNorm states that fire seals in floors have to be tested and approved independently from walls.

**Q**: Can approvals for drywalls be used in concrete walls?

**A**: Yes. The EuroNorm allows this but tests and approvals for concrete or masonry walls cannot be used in drywalls.

**Q**: I have a cable going through a drywall on one side and it does not penetrate the wall, however the instructions show only double sided fire seals?

**A**: Use the normal instructions for double sided seals, the wall boards on the other side will do the same job as the fire seal which will result in a double sided fire seal.

**Q**: I am to do a fire seal in a swimming pool area and need something moisture proof, what should I use?

**A**: For smaller seals you can use either the Protecta FR IPT sealant or the FR Putty Cord. For larger seals you can use Protecta FR Board, but after you have sealed the gaps and openings with FR Acrylic, apply a layer of FR Coating on top of the acrylic.

**Q**: Can the firestop details given in concrete floors be used in timber floors?

**A**: No, that is not allowed.

#### **FIRE SEALS**

**Q**: Is it acceptable that instead of a minimum 100mm depth of Protecta EX mortar, I can use a 50mm stonewool slab with 50mm depth of mortar?

**A**: No. But where 50mm depth of mortar on 50mm stonewool is mentioned, you can use 100mm depth of mortar instead and with no stone wool.

### FAQ's

**Q**: Do I need to remove a shuttering stone wool board when the shutter is not shown as part of the approval for EX Mortar in a floor?

**A**: No, the shutter will only increase the fire resistance.

**Q**: A solution states a 12.5mm depth of Protecta FR Acrylic on a 12.5mm backing of stonewool, can I instead seal with 25mm FR Acrylic and skip the backing?

**A**: Yes, the FR Acrylic will give better fire resistance than the stonewool backing material so if the total depth is the same or greater this is ok.

**Q**: There is a solution for a double sided seal with FR Acrylic at 15mm depth in a rigid wall. Can I instead seal this single sided at 30mm depth?

**A**: No. The fire seal will be weaker as the penetration speed of the fire will increase during heating of the material. With a double sided fire seal the fire has to effectively 'start again' when it meets the second seal. However, as a fire stopping solution it is better to do a single sided seal on both sides, resulting in a higher fire resistance.

**Q**: It is stated that I use stonewool backing with Protecta FR Acrylic, can I instead use Protecta Backing material?

**A**: Yes, the Protecta backing is made of AES fibre which has greater fire resistant than stonewool. However, if Protecta Backing is stated, you cannot use a stonewool backing.

**Q**: I have a special fire seal that is not mentioned in any of the solutions, what do I do?

**A**: Please contact us and we will assess if we can make an Engineering Judgment.

#### **CABLES**

**Q**: The instructions mention cables, but does that include all types of cables?

**A**: Yes. We have tested groups of cables which gives approvals for all kinds, including aluminium, copper and fibre optic cables.

#### **PIPES**

**Q**: I have a penetrating pipe made of iron, but it is not mentioned in the instructions?

A: Iron is the base metal of steel, so use the instructions for steel pipes.

**Q**: I am to fire seal a PE-HD (or HD-PE) pipe, can I use the instructions for PE pipes?

**A**: Yes. You can fire seal all PE pipes that are manufactured to EN 1519-1, EN 12201-2 and EN 12666-1. This normally includes LD-PE, MD-PE, HD-PE and PE-X pipes.

### FAQ's

**Q**: It is stated 'alupex' pipes in the instructions; can I use Geberit Mepla MLC pipes?

**A**: Yes. Alupex is a general term for composite aluminium pipes. They consist of an aluminium core that is covered on the inner and outer sides with thin plastic. Some alupex pipes on the market are:

- FRÄNKISCHE alpex F50 PROFI
- GEBERIT Mepla MLC
- JRG Sanipex MT
- KE KELIT Kelox
- REHAU Rautitan stabil
- TECEflex
- UPONOR MLC
- VIEGA Sanfix Fosta

**Q**: I am to fire seal a Blazemaster cPVC pipe but I have heard it reacts with fire stopping products?

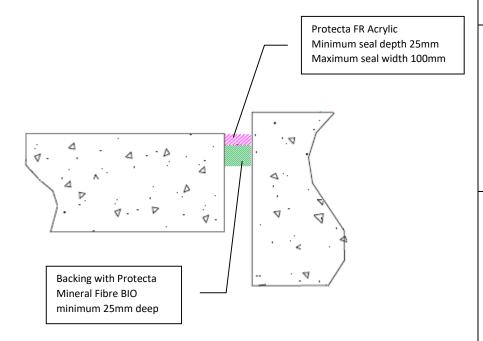
**A**: Protecta FR Acrylic should be used; it has been independently tested and does not react with BlazeMaster or other cPVC pipes.

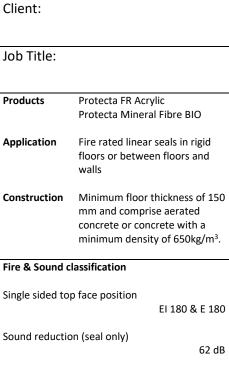
# Appendix I

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Linear seal solutions

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation guide. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.







As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change product specifications without giving notice. All information contained in this document is given in good faith and is provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over the methods or competence of installation and of prevailing site conditions, no warranties, expressed or implied, is intended to be given as to the actual performance of the product mentioned or referred to herein and no liability whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polvseam.com be found on www.protecta.eu

Signed and approved:

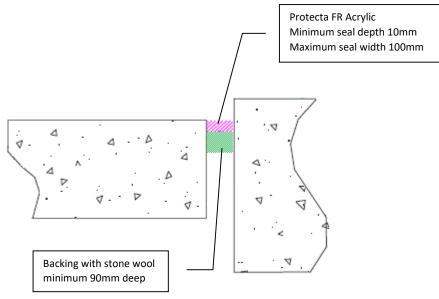


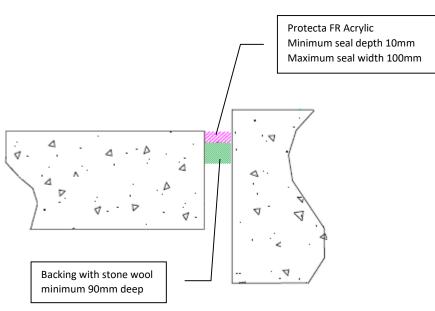
Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire rated linear seals in rigid floors or between floors and walls Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification Single sided top face position EI 240 & E 240 Sound reduction (minimum 12mm depth) 62 dB



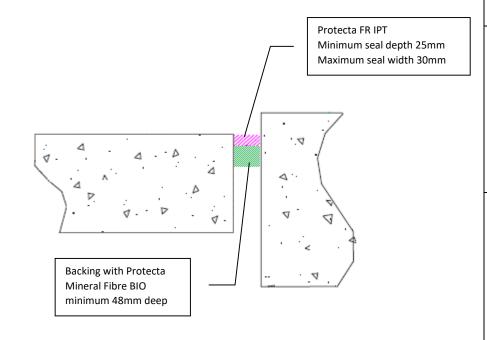
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| NTS         | K.B              |

- 1. All surfaces must be clean and sound, free from dirt, grease and other contaminants. The surfaces may be damp but not running wet. Use a wet brush to clean surfaces before application to remove loose material and to ensure good contact for adhesion. Primers are not usually required.
- 2. Cut nozzle to the desired angle and gun firmly into the joint to give a good solid fill. Strike off the sealant flush with the joint sides within ten minutes of application, before surface skinning occurs. The sealant will have low shrinkage during cure and if a flush surface it is recommended to leave the sealant
- 3. Protecta® FR IPT can be tooled to a smooth finish using a moist plastic stick or similar within 30 minutes of application. IPT Tooling designed for the optimum finish is recommended instead of soap and water as it forms a film between the stick and the sealant.
- 4. Do not spray the sealant with water or other fluids before skin formation (<30 min). Uncured sealant is soluble in water prior to skinning due to its environmentally friendly IPT chemistry that uses water instead of solvents.
- 5. Protecta® FR IPT can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR IPT Protecta Mineral Fibre BIO Application Fire rated, water proof and movement linear seals in rigid floors or between floors and walls Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire, Sealant & Sound classification Single sided top face position EI 180 & E 240 Classification CE Facade (interior) 25HM Sanitary joints XS1 Sound reduction (seal only) 62 dB

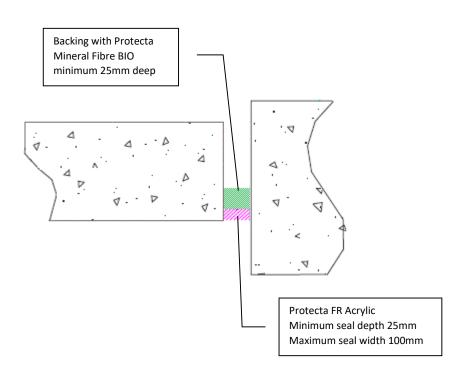


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| NTS         | K.B              |

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation guide. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





Client:



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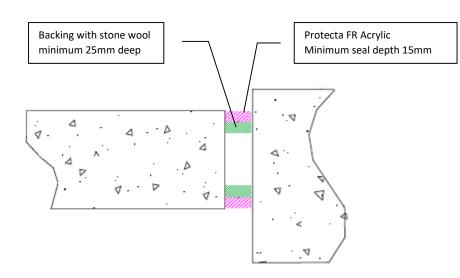
For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



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- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products

Protecta FR Acrylic
Stone wool

Application

Fire rated linear seals in rigid floors or between floors and walls

Construction

Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³.

#### Fire & Sound classification

Up to 100mm wide double sided seal with low density stone wool EI 120 & E 120

Up to 100mm wide double sided seal with stone wool  $\geq$  140kg/m<sup>3</sup> EI 180 & E 180

Up to 30mm wide double sided seal with low density stone wool EI 240 & E 240

Sound reduction (seal only)

62 dB



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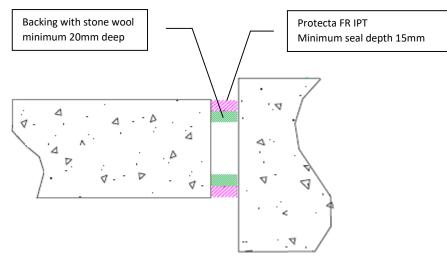
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- 1. All surfaces must be clean and sound, free from dirt, grease and other contaminants. The surfaces may be damp but not running wet. Use a wet brush to clean surfaces before application to remove loose material and to ensure good contact for adhesion. Primers are not usually required.
- 2. Cut nozzle to the desired angle and gun firmly into the joint to give a good solid fill. Strike off the sealant flush with the joint sides within ten minutes of application, before surface skinning occurs. The sealant will have low shrinkage during cure and if a flush surface it is recommended to leave the sealant
- 3. Protecta® FR IPT can be tooled to a smooth finish using a moist plastic stick or similar within 30 minutes of application. IPT Tooling designed for the optimum finish is recommended instead of soap and water as it forms a film between the stick and the sealant.
- 4. Do not spray the sealant with water or other fluids before skin formation (<30 min). Uncured sealant is soluble in water prior to skinning due to its environmentally friendly IPT chemistry that uses water instead of solvents.
- 5. Protecta® FR IPT can be over-painted with most emulsion or alkyd (gloss) paints.



**Products** Application Construction Classification CE

Client: Job Title: Protecta FR IPT Stone wool Fire rated, water proof and movement linear seals in rigid floors or between floors and walls Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire, Sealant & Sound classification

Up to 30mm wide double sided seal with low density stone wool

EI 240 & E 240

Facade (interior) 25HM Sanitary joints XS1

Sound reduction (seal only)

62 dB



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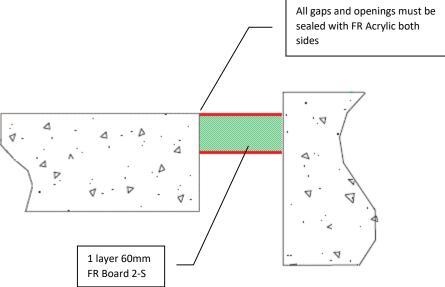


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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

- Before installing Protecta® FR Board ensure that the surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the linear seal width. All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

|   | Client:      |  |
|---|--------------|--|
| 7 | Job Title:   |  |
|   | Products     | Protecta FR Board  |
|   |              | Protecta FR Acrylic  |
|   | Application  | Fire rated linear seals between floor slabs or between floor slab and wall |
|   | Construction | Minimum floor thickness of 150 mm and comprise aerated                     |

#### Fire & Sound classification

Up to 120mm wide seal friction fitted at any position fully within the cavity

concrete or concrete with a minimum density of 650kg/m<sup>3</sup>

EI 120 & E 240

Up to 800mm wide seal friction fitted at any position fully within the cavity

EI 90 & E 120

Sound reduction (seal only)

55 dB

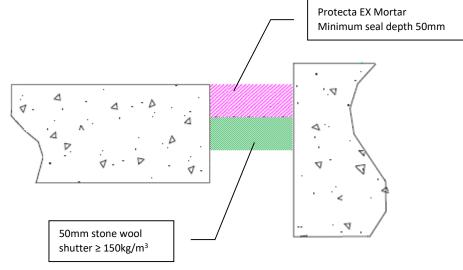


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- 1. Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. Bare metal in contact with the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab.
- 5. Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal - any small openings should be sealed with Protecta® FR Acrylic
- 6. Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process. For different mix ratios and drying times, please refer to the Technical Data Sheet.
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta EX Mortar Stone wool shutter Application Fire rated linear seals between floor slabs or between floor slab and wall Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>

#### Fire & Sound classification

Up to 800mm wide seal at any position fully within the cavity

EI 180 & E 180

Sound reduction (seal only)

64 dB

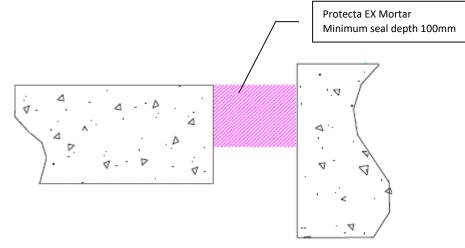


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- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal in contact with the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 6. Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process. For different mix ratios and drying times, please refer to the Technical Data Sheet.
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

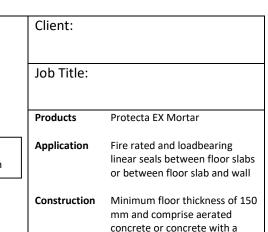
Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load up to 15kN.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



#### Fire & Sound classification

Up to 800mm wide seal at any position fully within the cavity

EI 240 & E 240

minimum density of 650kg/m<sup>3</sup>

Sound reduction (seal only)

64 dB



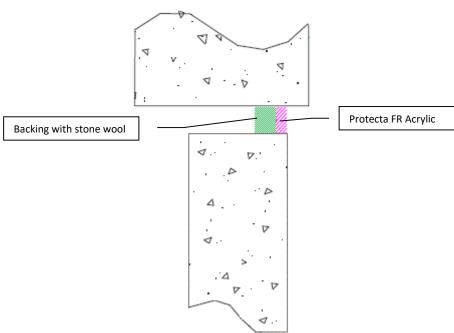
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- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Client: Job Title:

**Products** Protecta FR Acrylic

Stone wool

**Application** Fire rated linear seals in rigid

walls or between wall and floor

Minimum wall thickness of 150 Construction

mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

#### Fire & Sound classification

Single sided horizontal seal with minimum seal depth 25mm, max seal width 30mm and EI 60 & E 240 backing minimum 20mm deep

Single sided horizontal seal with minimum seal depth 10mm, max seal width 50mm and backing minimum 60mm deep EI 60 & E 240

Single sided vertical seal with minimum seal depth 10mm, max seal width 50mm and backing minimum 60mm deep EI 120 & E 120

Sound reduction (minimum depth 12mm) 62 dB



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Signed and approved:

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.

Backing with Protecta
Mineral Fibre BIO
minimum 48mm deep

Protecta FR Acrylic Minimum seal depth 25mm. Maximum seal width 30mm Client:

Job Title:

Products

Protecta FR Acrylic
Protecta Mineral Fibre BIO

Application

Fire rated linear seals in rigid
walls or between wall and floor

Construction

Minimum wall thickness of 150
mm and comprise concrete,
aerated concrete or masonry,
with a density of ≥ 650 kg/m³

Fire & Sound classification

Single sided horizontal seal

EI 120 & E 240

Sound reduction (seal only)

62 dB



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Signed and approved:



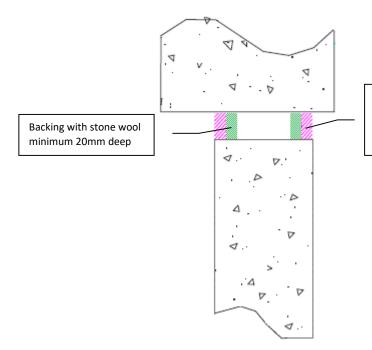
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- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Protecta FR Acrylic Minimum seal depth 15mm. Maximum seal width 30mm Job Title:

Products Protecta FR Acrylic Stone wool

Application Fire rated linear seals in rigid walls or between wall and floor

Construction Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

Fire & Sound classification

Double sided in horizontal or vertical seals

EI 240 & E 240

Sound reduction (seal only)

Client:

62 dB

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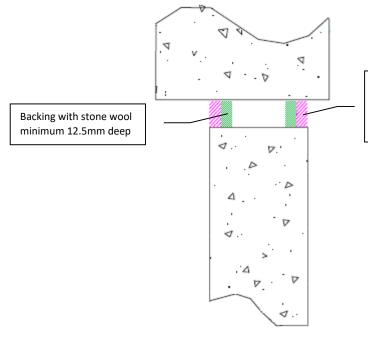


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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

- All surfaces must be clean and sound, free from dirt, grease and other contaminants. The surfaces may be damp but not running wet. Use a wet brush to clean surfaces before application to remove loose material and to ensure good contact for adhesion. Primers are not usually required.
- Cut nozzle to the desired angle and gun firmly into the joint to give a good solid fill. Strike off the sealant flush with the joint sides within ten minutes of application, before surface skinning occurs. The sealant will have low shrinkage during cure and if a flush surface it is recommended to leave the sealant proud.
- Protecta® FR IPT can be tooled to a smooth finish using a moist plastic stick or similar within 30 minutes of application. IPT Tooling designed for the optimum finish is recommended instead of soap and water as it forms a film between the stick and the sealant.
- Do not spray the sealant with water or other fluids before skin formation (<30 min). Uncured sealant is soluble in water prior to skinning due to its environmentally friendly IPT chemistry that uses water instead of solvents.
- 5. Protecta® FR IPT can be over-painted with most emulsion or alkyd (gloss) paints.



Protecta FR IPT Minimum seal depth 12.5mm. Maximum seal width 30mm

ECTA Propart Organistics for Technical Assessment

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR IPT Stone wool Application Fire rated, water proof and movement linear seals in rigid walls or between wall and floor Minimum wall thickness of 100 Construction mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup> Fire, Sealant & Sound classification Double sided in horizontal or vertical seals EI 120 & E 120

Classification CE

Facade (interior) 25HM Sanitary joints XS1

Sound reduction (seal only)

62 dB



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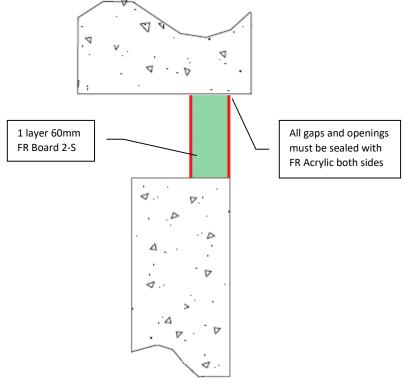
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- Before installing Protecta® FR Board ensure that the surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- Cut the required board(s) to suit the linear seal width. All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

#### Fire & Sound classification

Up to 1200mm wide horizontal seals friction fitted at any position fully within the cavity

EI 90 & E 240

Sound reduction (seal only)

55 dB



Huddersfield, West Yorkshire, HD1 6SB

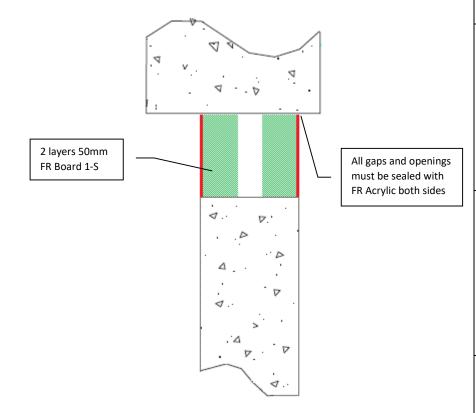
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 24/5/18

Scale: Drawn by: K.B

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 3. Cut the required board(s) to suit the linear seal width. All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



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FTA 13/0673

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Board
Protecta FR Acrylic

Application Fire rated linear seals in rigid
walls or between wall and floor

Construction Minimum wall thickness of 100
mm and comprise concrete,
aerated concrete or masonry,
with a density of ≥ 650 kg/m³

#### Fire & Sound classification

Up to 1200mm wide horizontal seals friction fitted at any position fully within the cavity

EI 120 & E 120

Sound reduction (seal only)

55 dB



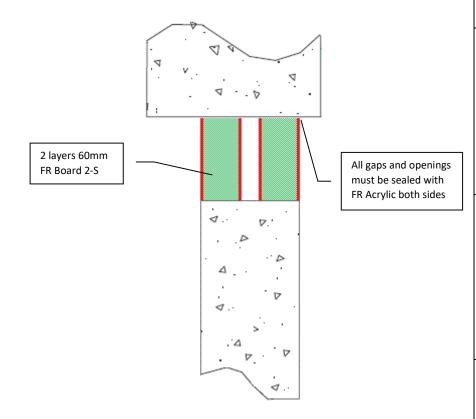
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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 3. Cut the required board(s) to suit the linear seal width. All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.

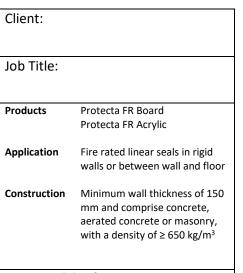




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Signed and approved:



#### Fire & Sound classification

Up to 1200mm wide horizontal seals flush with the surface on both sides fully within the cavity EI 180 & E 240

Sound reduction (seal only)

55 dB

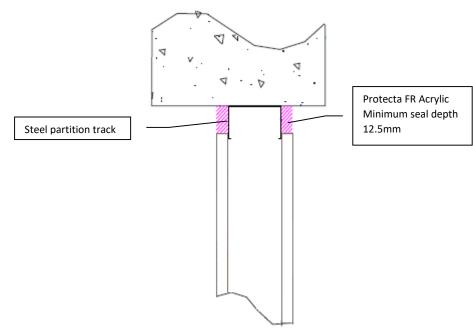


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| NTS         | K.B              |

- Before installing Protecta® FR Acrylic ensure that the surface of all surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Both sides in horizontal seals with maximum seal width 25mm EI 45 & E 60

Both sides in vertical seals with maximum seal width 15mm EI 45 & E 60

Sound reduction (seal only) 62 dB



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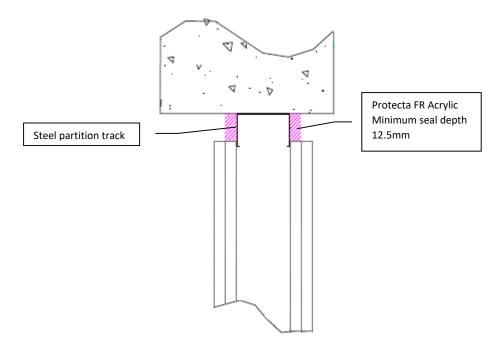


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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

- Before installing Protecta® FR Acrylic ensure that the surface of all surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Job Title:

Products Protecta FR Acrylic

Application Fire rated linear seals in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

Fire & Sound classification

Client:

Both sides in horizontal seals with maximum seal width 25mm EI 90 & E 90

Both sides in vertical seals with maximum seal width 15mm EI 90 & E 90

Sound reduction (seal only) 62 dB



Huddersfield, West Yorkshire, HD1 6SB

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

- Before installing Protecta® FR Acrylic ensure that the surface of all surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.

Backing with mineral stone wool minimum 12.5mm deep against steel partition track

Protecta FR Acrylic Minimum seal depth 12.5mm

Entrance Traperiories (Final Assessment

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic Stone wool

Application Fire rated linear seals in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

#### Fire & Sound classification

Both sides in horizontal seals with maximum seal width 30mm EI 120 & E 120

Both sides in vertical seals with maximum seal width 15mm EI 90 & E 90

Sound reduction (seal only) 62 dB



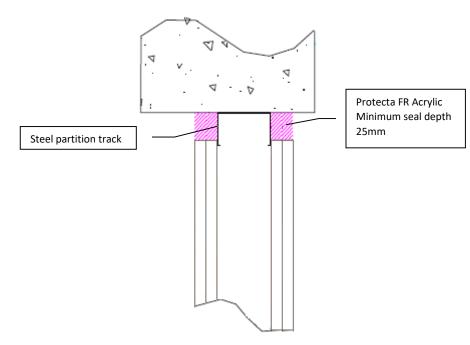
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- 1. Before installing Protecta® FR Acrylic ensure that the surface of all surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Job Title: **Products** Protecta FR Acrylic **Application** Fire rated linear seals in flexible Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards. Fire & Sound classification Both sides in horizontal seals with maximum seal width 30mm EI 120 & E 120 Both sides in vertical seals with maximum seal width 15mm EI 90 & E 90

Client:



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Sound reduction (seal only)

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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

62 dB

- All surfaces must be clean and sound, free from dirt, grease and other contaminants. The surfaces may be damp but not running wet. Use a wet brush to clean surfaces before application to remove loose material and to ensure good contact for adhesion. Primers are not usually required.
- 2. Cut nozzle to the desired angle and gun firmly into the joint to give a good solid fill. Strike off the sealant flush with the joint sides within ten minutes of application, before surface skinning occurs. The sealant will have low shrinkage during cure and if a flush surface it is recommended to leave the sealant proud.
- 3. Protecta® FR IPT can be tooled to a smooth finish using a moist plastic stick or similar within 30 minutes of application. IPT Tooling designed for the optimum finish is recommended instead of soap and water as it forms a film between the stick and the sealant.
- 4. Do not spray the sealant with water or other fluids before skin formation (<30 min). Uncured sealant is soluble in water prior to skinning due to its environmentally friendly IPT chemistry that uses water instead of solvents.
- 5. Protecta® FR IPT can be over-painted with most emulsion or alkyd (gloss) paints.

Backing with mineral stone wool minimum 12.5mm deep against steel partition track

Protecta FR IPT Minimum seal depth 12.5mm

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR IPT Stone wool Application Fire rated, water proof and movement linear seals in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards. Fire, Sealant & Sound classification

Both sides in horizontal and vertical seals with maximum seal width 30mm EI 120 & E 120

Classification CE Facade (interior) 25HM

Sanitary joints XS1

Sound reduction (seal only) 62 dB

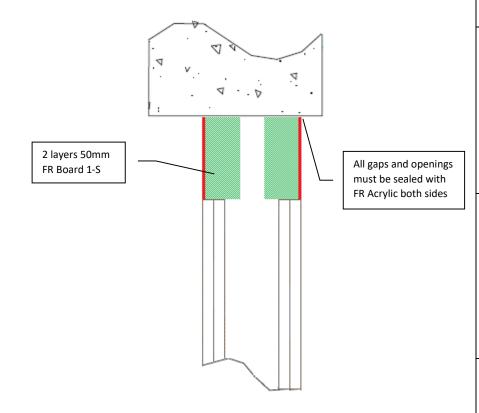


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| NTS         | K.B              |

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the gypsum on both sides. In seals longer than 2400mm, uninterrupted separating studs will be required at 2400mm centres or less.
- 3. Cut the required board(s) to suit the linear seal width. All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Board Protecta FR Acrylic Application Fire rated linear seals in flexible walls Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards

## Fire & Sound classification

Up to 1200mm wide horizontal seals flush with the surface on both sides fully within the cavity EI 120 & E 120

Sound reduction (seal only)

55 dB



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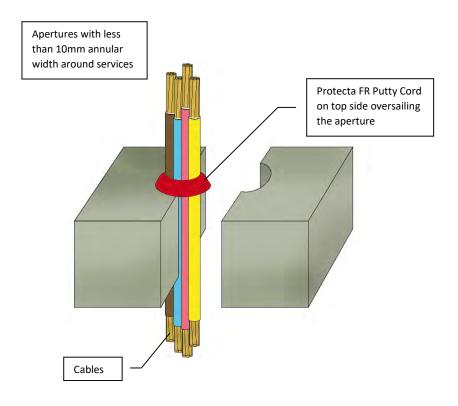
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# Appendix II

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Service penetration solutions with gaps ≤ 10mm

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- Press the Putty Cord into the floor and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the floor.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of cables in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

Fire & Sound classification

Fire & Sound classification

Single cables  $\leq \emptyset$  21mm EI 120 & E 120

Single cables  $\leq \emptyset$  50mm EI 90 & E 120

Single cables  $\leq \emptyset$  80mm EI 60 & E 120

Cables  $\leq \emptyset$  21mm in tied bundles  $\leq \emptyset$  50mm
EI 60 & E 120

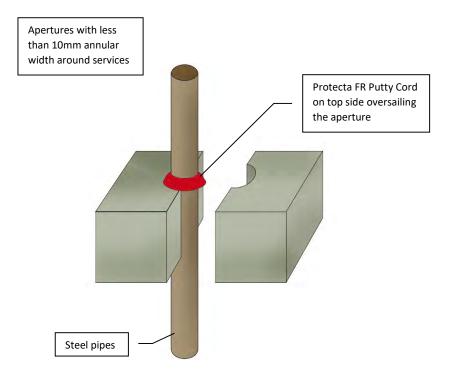


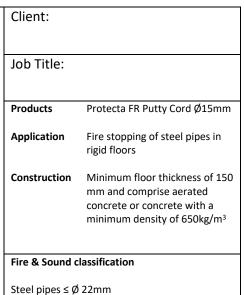
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| NTS         | K.B              |

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- Press the Putty Cord into the floor and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the floor.





EI 120 C/U & E 120 C/U



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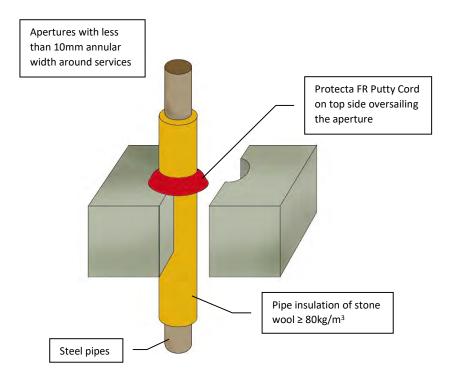
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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- Press the Putty Cord into the floor and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the floor.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of steel pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

Steel pipes ≤ Ø40mm with 20mm thick continuous pipe insulation

EI 240 C/U & E 240 C/U

Steel pipes  $\leq \emptyset$ 324mm with 30-80mm thick continuous pipe insulation

EI 240 C/U & E 240 C/U

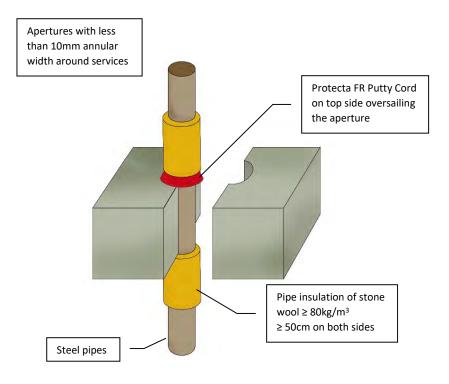


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- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- Press the Putty Cord into the floor and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the floor.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of steel pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

## Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with  $\geq 20$ mm thick pipe insulation

EI 240 C/U & E 240 C/U

Steel pipes  $\leq \emptyset 324$ mm with  $\geq 30$ mm thick pipe insulation

EI 60 C/U & E 240 C/U



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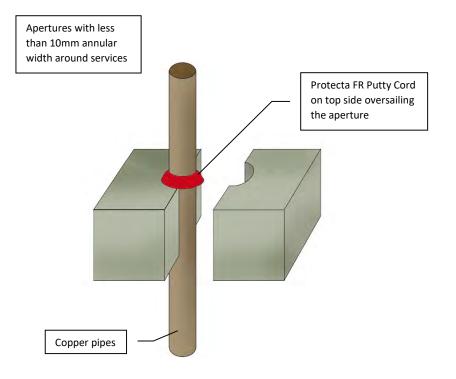
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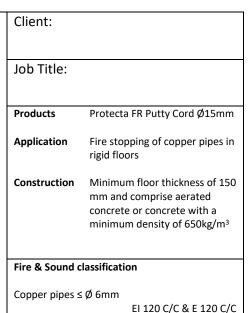
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- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- Press the Putty Cord into the floor and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the floor.







Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Copper pipes ≤ Ø 10mm

Email: post.uk@polyseam.com

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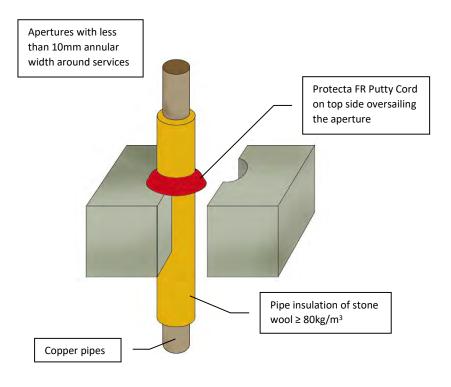
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Signed and approved:

EI 90 C/C & E 120 C/C

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- Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- Press the Putty Cord into the floor and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the floor.





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Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of copper pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

## Fire & Sound classification

Copper pipes  $\leq \emptyset$ 12mm with 20mm thick continuous pipe insulation

EI 240 C/C & E 240 C/C

Copper pipes ≤ Ø54mm with 30-80mm thick continuous pipe insulation

EI 240 C/C & E 240 C/C



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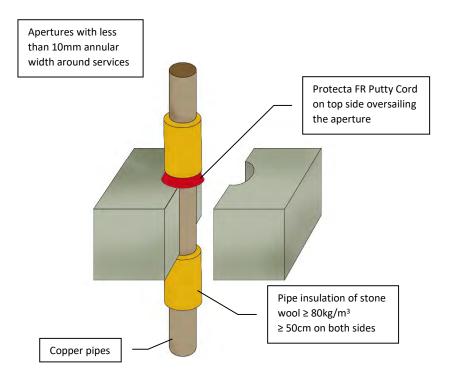
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- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
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Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of copper pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

Copper pipes  $\leq \emptyset 12$ mm with  $\geq 20$ mm thick pipe insulation

EI 240 C/C & E 240 C/C

Copper pipes  $\leq \emptyset$ 54mm with  $\geq$  20mm thick pipe insulation

EI 60 C/C & E 240 C/C



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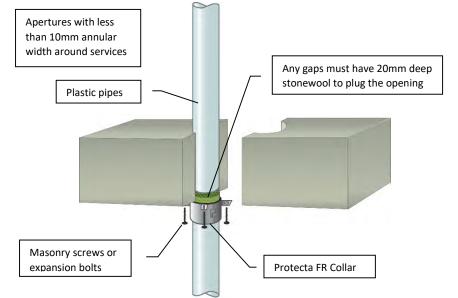
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- A single pipe collar is installed on the underside of the floor.
- Before fitting the pipe collar ensure that any gaps between the pipe and the separating element are sealed.
- Place a pipe collar around the service penetration (pipe) and ensure that the fixing lugs are positioned tightly to the surface of the floor so that the fixings can be inserted fully.
- Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the pipe collar.
- Attach the pipe collar with steel screws or fixings that are suitable for the substrate that the pipe collar will be fitted to; use ≥ Ø4 x 50mm long masonry screws or expansion bolts.



| Services                   | Minimum Collar | Classification                                 |
|----------------------------|----------------|--|
|                            | Height         |  |
| ≤ Ø110mm PVC-U & PVC-C     | 30mm           | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U     |
| ≤ Ø110mm PVC-U & PVC-C     | 50mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø125mm PVC-U & PVC-C     | 60mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø160mm PVC-U & PVC-C     | 60mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø50mm PE, ABS & SAN+PVC  | 30mm           | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U     |
| ≤ Ø50mm PE, ABS & SAN+PVC  | 50mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø110mm PE, ABS & SAN+PVC | 50mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø160mm PE, ABS & SAN+PVC | 60mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø50mm PP                 | 30mm           | EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U |
| ≤ Ø110mm PP                | 50mm           | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø125mm PP                | 60mm           | EI 120 C/C, EI 120 U/C                         |
| ≤ Ø160mm PP                | 60mm           | EI 180 C/C, EI 180 U/C                         |



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
|              |  |
| Job Title:   |  |
|              |  |
| Products     | Protecta FR Collar   |
| Application  | Fire stopping of plastic pipes in rigid floors   |
| Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ |
|              |  |

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

58dB

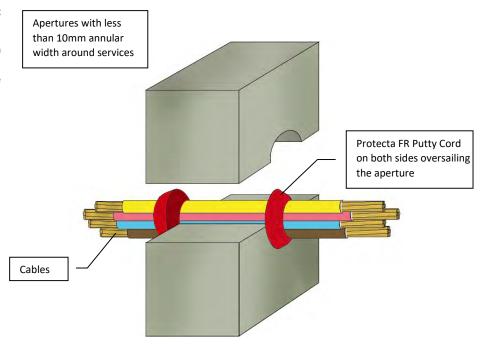


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| NTS         | K.B              |

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

 Client:

 Job Title:

 Products
 Protecta FR Putty Cord Ø15mm

 Application
 Fire stopping of cables in rigid walls

 Construction
 Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

## Fire & Sound classification

Cables  $\leq \emptyset$  21mm, single or in a bundle  $\leq \emptyset$  50mm

EI 120 & E 120

Cables  $\leq \emptyset$  80mm, single or in a bundle  $\leq \emptyset$  50mm

EI 60 & E 60

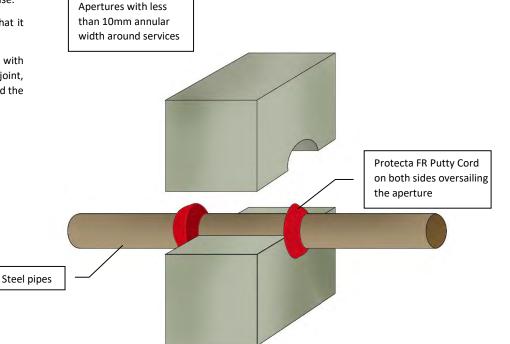


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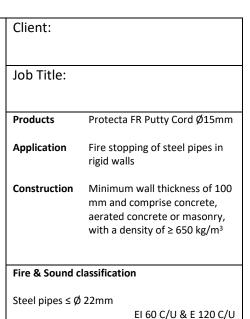




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Signed and approved:





EI 45 C/U & E 120 C/U

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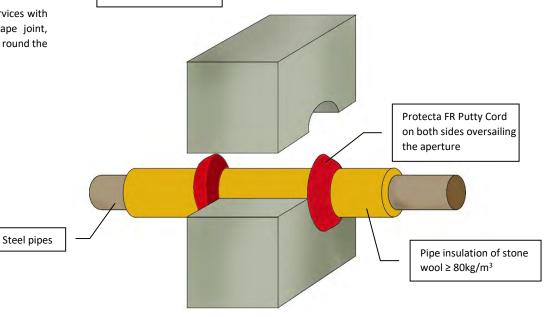
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Steel pipes ≤ Ø 30mm

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- 2. Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.

Apertures with less than 10mm annular width around services



Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of steel pipes in rigid walls

Construction Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

#### Fire & Sound classification

Steel pipes ≤ Ø40mm with 20mm thick continuous pipe insulation

EI 120 C/U & E 120 C/U

Steel pipes  $\leq \emptyset$ 324mm with 30-80mm thick continuous pipe insulation

EI 60 C/U & E 90 C/U



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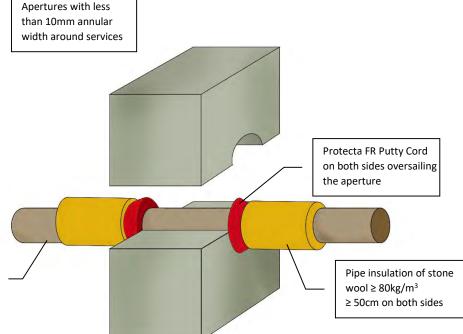


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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.





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Steel pipes

For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Putty Cord Ø15mm   |
| Application  | Fire stopping of steel pipes in rigid walls  |
| Construction | Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³ |

#### Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with  $\geq 20$ mm thick pipe insulation

EI 120 C/U & E 120 C/U

Steel pipes  $\leq \emptyset 324$ mm with  $\geq 30$ mm thick pipe insulation

EI 120 C/U & E 120 C/U



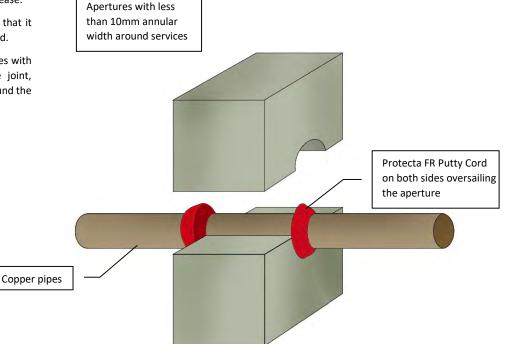
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| NTS         | K.B              |

## <u>Installation Instructions</u>

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the wall all the way round.
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Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of copper pipes in rigid walls

Construction Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

## Fire & Sound classification

Copper pipes ≤ Ø 6mm

EI 120 C/C & E 120 C/C

Copper pipes ≤ Ø 12mm

EI 60 C/C & E 120 C/C



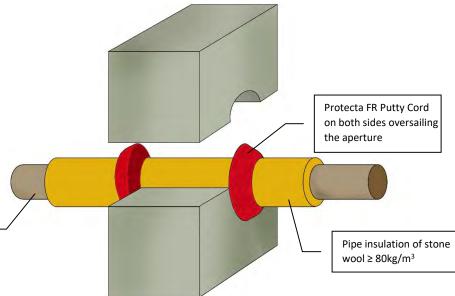
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- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.

Apertures with less than 10mm annular width around services



Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of copper pipes in rigid walls

Construction Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

#### Fire & Sound classification

Copper pipes ≤ Ø12mm with 20mm thick continuous pipe insulation

EI 60 C/C & E 90 C/C

Copper pipes ≤ Ø54mm with 30-80mm thick continuous pipe insulation

EI 60 C/C & E 90 C/C



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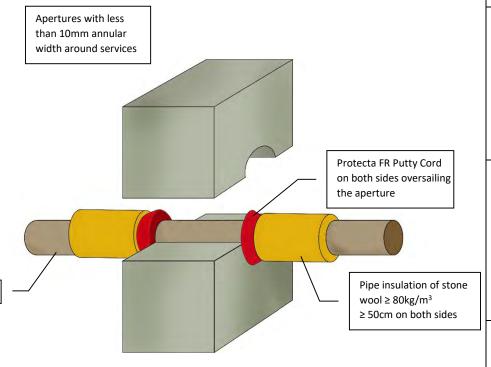
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Copper pipes

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Signed and approved:

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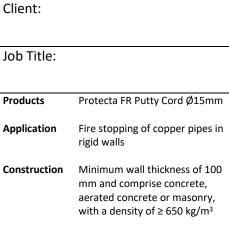
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Copper pipes

For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



## Fire & Sound classification

Copper pipes  $\leq \emptyset$ 54mm with  $\geq$  20mm thick pipe insulation

EI 60 C/C & E 90 C/C

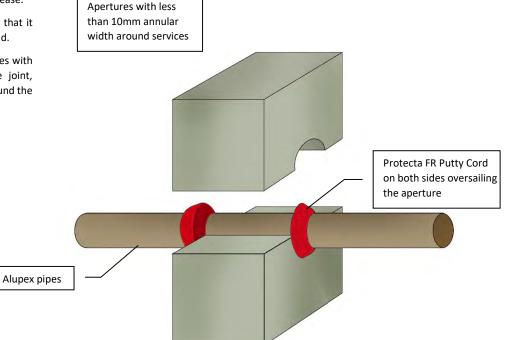


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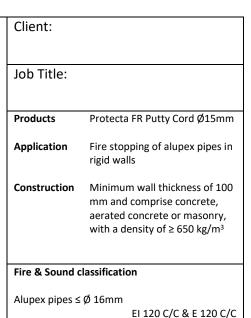




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Signed and approved:





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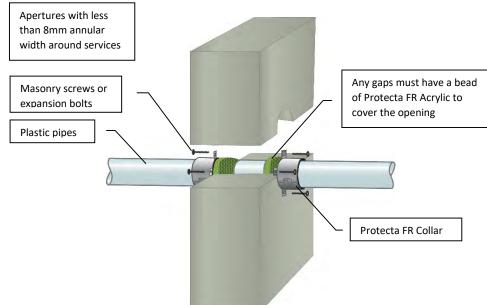
Alupex pipes ≤ Ø 20mm

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EI 90 C/C & E 120 C/C

- For sealing plastic pipes, a pipe collar is installed on both sides of the wall.
- Before fitting the pipe collar ensure that any gaps between the pipe and the separating element are sealed.
- Place a pipe collar around the service penetration (pipe) and ensure that the fixing lugs are positioned tightly to the surface of the wall so that the fixings can be inserted fully.
- Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the wall/floor and the pipe collar.
- Attach the pipe collar with steel screws or fixings that are suitable for the substrate that the pipe collar will be fitted to. Use ≥ Ø4 x 50mm long masonry screws or expansion bolts.



| Services                      | Minimum Collar<br>Height | Classification                                 |
|-------------------------------|--------------------------|--|
| ≤ Ø110mm PVC-U & PVC-C        | 30mm                     | EI 60 C/C, EI 60 U/C                           |
| ≤Ø110mm PVC-U & PVC-C         | 50mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |
| ≤ Ø160mm PVC-U & PVC-C        | 60mm                     | EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U |
| Ø315x9.2mm PVC-U & PVC-C      | 75mm                     | EI 120 C/C                                     |
| ≤ Ø50mm PE, ABS & SAN+PVC     | 30mm                     | EI 60 C/C, EI 60 U/C, EI 45 C/U, EI 45 U/U     |
| ≤ Ø50mm PE, ABS & SAN+PVC     | 50mm                     | EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 30mm                     | EI 60 C/C, EI 60 U/C                           |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 50mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |
| ≤ Ø160mm PE, ABS & SAN+PVC    | 60mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |
| Ø200x18.2mm PE, ABS & SAN+PVC | 75mm                     | EI 60 C/C                                      |
| Ø250x22.7mm PE, ABS & SAN+PVC | 75mm                     | EI 90 C/C                                      |
| ≤ Ø50mm PP                    | 30mm                     | EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U |
| ≤ Ø110mm PP                   | 30mm                     | EI 60 C/C, EI 60 U/C                           |
| ≤ Ø110mm PP                   | 50mm                     | EI 240 C/C, EI 240 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø125mm PP                   | 60mm                     | EI 180 C/C, EI 180 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø160mm PP                   | 60mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Collar<br>Protecta FR Acrylic  |
| Application  | Fire stopping of plastic pipes in rigid walls  |
| Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m <sup>3</sup> |

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

58dB

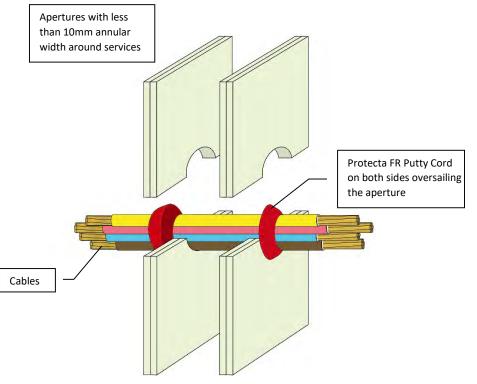


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Tel: +44 (0) 148 4421036

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|-------------|------------------|
| Α4          | 24/5/18          |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of cables in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards

## Fire & Sound classification

Cables  $\leq \emptyset$  21mm, single or in a bundle  $\leq \emptyset$  50mm

EI 120 & E 120

Cables  $\leq \emptyset$  80mm, single or in a bundle  $\leq \emptyset$  50mm

EI 60 & E 60



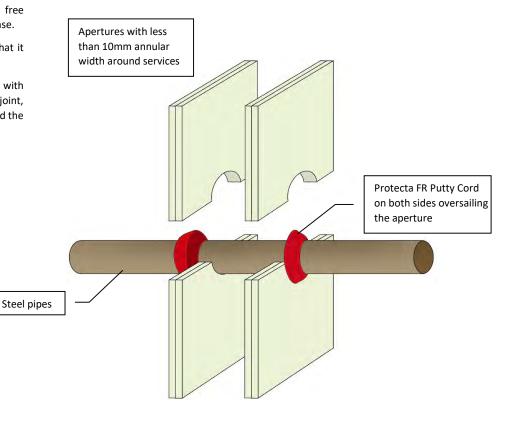
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Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 29/5/18
Scale: Drawn by: K.B

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of steel pipes in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards

#### Fire & Sound classification

Steel pipes ≤ Ø 22mm

EI 60 C/U & E 120 C/U

Steel pipes ≤ Ø 30mm

EI 45 C/U & E 120 C/U

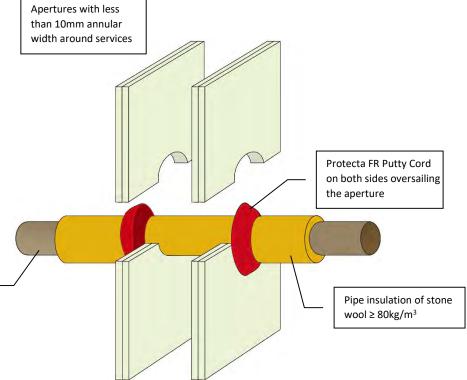


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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the wall all the way round.
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Steel pipes

For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of steel pipes in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both

Fire & Sound classification

Steel pipes ≤ Ø40mm with 20mm thick continuous pipe insulation

EI 120 C/U & E 120 C/U

faces with minimum 2 layers of 12.5 mm thick boards

Steel pipes  $\leq \emptyset$ 324mm with 30-80mm thick continuous pipe insulation

EI 60 C/U & E 90 C/U



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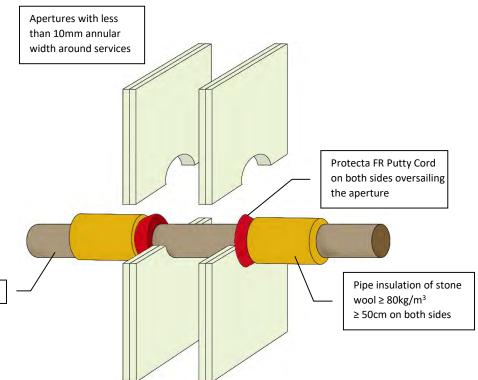
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Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 29/5/18

Scale: Drawn by: K.B

- 1. Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- 3. Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.



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Steel pipes

For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Putty Cord Ø15mm

**Application** Fire stopping of steel pipes in flexible walls

Construction Minimum wall thickness of 100

> mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards

## Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with  $\geq 20$ mm thick pipe insulation

EI 120 C/U & E 120 C/U

Steel pipes ≤  $\emptyset$ 324mm with ≥ 30mm thick pipe

insulation

EI 120 C/U & E 120 C/U



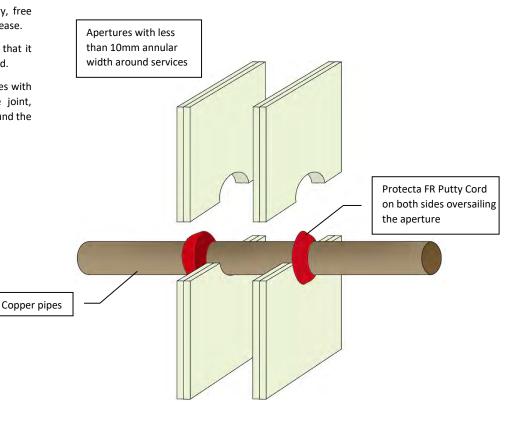
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Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

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- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
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- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
|              |  |
| Job Title:   |  |
|              |  |
| Products     | Protecta FR Putty Cord Ø15mm   |
| Application  | Fire stopping of copper pipes in flexible walls  |
| Construction | Minimum wall thickness of 100 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards |

## Fire & Sound classification

Copper pipes ≤ Ø 6mm

EI 120 C/C & E 120 C/C

Copper pipes ≤ Ø 12mm

EI 60 C/C & E 120 C/C

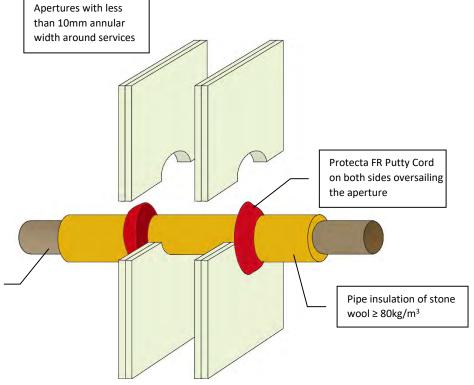


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| NTS         | K.B              |

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Copper pipes

For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Putty Cord Ø15mm

Application Fire stopping of copper pipes in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards

12.5 mm tinek board

## Fire & Sound classification

Copper pipes  $\leq \emptyset$ 12mm with 20mm thick continuous pipe insulation

EI 60 C/C & E 90 C/C

Copper pipes ≤ Ø54mm with 30-80mm thick continuous pipe insulation

EI 60 C/C & E 90 C/C

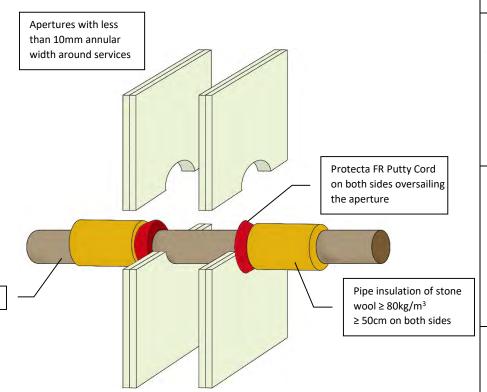


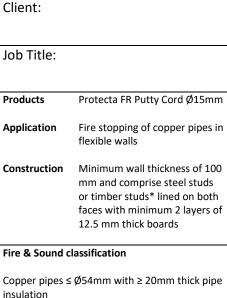
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Email: post.uk@polyseam.com

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.







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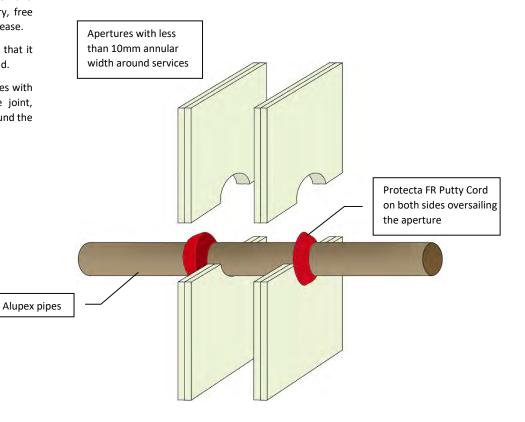
Copper pipes

For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

EI 60 C/C & E 90 C/C

- Before installing Protecta® FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- Place the Putty Cord around the services so that it seals the services to the wall all the way round.
- Press the Putty Cord into the wall and services with your thumbs to form a fillet or V shape joint, ensuring good contact is made all the way round the services and the wall.

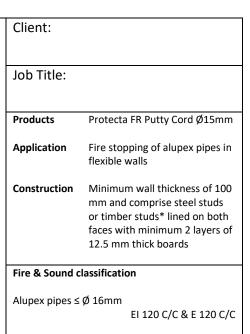




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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:





EI 90 C/C & E 120 C/C

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Tel: +44 (0) 148 4421036

Alupex pipes ≤ Ø 20mm

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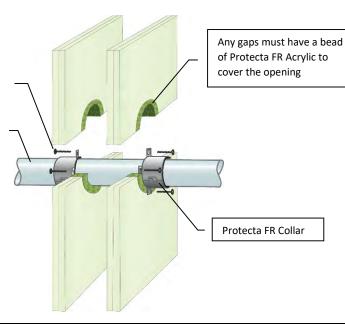
## <u>Installation Instructions</u>

- For sealing plastic pipes, a pipe collar is installed on both sides of the wall.
- Before fitting the pipe collar ensure that any gaps between the pipe and the separating element are sealed.
- Place a pipe collar around the service penetration (pipe) and ensure that the fixing lugs are positioned tightly to the surface of the wall so that the anchors/fixings can be inserted fully.
- Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the wall and the pipe collar.
- 5. Attach the pipe collar with steel screws, anchors or fixings that are suitable for the substrate that the pipe collar will be fitted to. Use ≥ Ø4 mm gypsum-, wood screws or anchors with a length suitable for the number of boards that form the wall.

Apertures with less than 8mm annular width around services

Gypsum-, wood screws or anchors of steel

Plastic pipes



| Services                      | Minimum Collar<br>Height | Classification                             |
|-------------------------------|--------------------------|--|
| ≤ Ø50mm PVC-U & PVC-C         | 30mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø110mm PVC-U & PVC-C        | 30mm                     | EI 60 C/C, EI 60 U/C                       |
| ≤ Ø110mm PVC-U & PVC-C        | 50mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø160mm PVC-U & PVC-C        | 60mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| Ø315x9.2mm PVC-U & PVC-C      | 75mm                     | EI 60 C/C                                  |
| ≤ Ø50mm PE, ABS & SAN+PVC     | 30mm                     | EI 60 C/C, EI 60 U/C, EI 45 C/U, EI 45 U/U |
| ≤ Ø90mm PE, ABS & SAN+PVC     | 50mm                     | EI 60 C/C, EI 60 U/C, EI 45 C/U, EI 45 U/U |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 30mm                     | EI 60 C/C, EI 60 U/C                       |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 50mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø140mm PE, ABS & SAN+PVC    | 60mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø160mm PE, ABS & SAN+PVC    | 60mm                     | EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U |
| Ø200x18.2mm PE, ABS & SAN+PVC | 75mm                     | EI 60 C/C                                  |
| Ø250x22.7mm PE, ABS & SAN+PVC | 75mm                     | EI 60 C/C                                  |
| ≤ Ø50mm PP                    | 30mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø110mm PP                   | 30mm                     | EI 60 C/C, EI 60 U/C                       |
| ≤ Ø110mm PP                   | 50mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø160mm PP                   | 60mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

|   | Client:     |                                   |
|---|-------------|-----------------------------------|
|   |             |                                   |
| ٦ |             |                                   |
|   | Job Title:  |                                   |
|   |             |                                   |
|   |             |                                   |
|   | Products    | Protecta FR Collar                |
|   |             | Protecta FR Acrylic               |
|   |             |                                   |
|   | Application | Fire stopping of plastic pipes in |
|   |             | flexible walls                    |
|   | I           |                                   |

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

58dB



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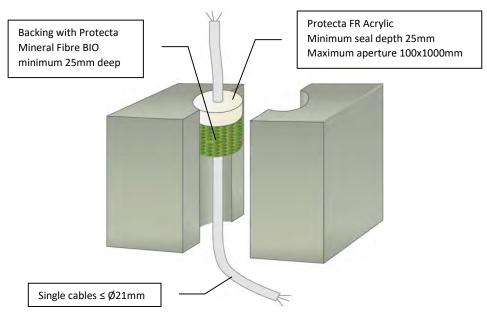
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| NTS         | K.B              |

# Appendix III

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Service penetration solutions with gaps ≥ 10mm and ≤ 30mm

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation guide. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polvseam.com be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Protecta Mineral Fibre BIO Application Fire stopping of cables in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification

Single sided seal top or soffit face position

EI 60 & E 120

Sound reduction (seal only)

62 dB

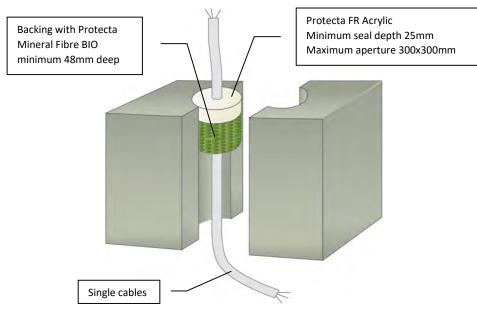


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| A4          | 4/3/15           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing Protecta® FR Acrylic in hollow floor slabs or boards, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

|   | Client:      |   |
|---|--------------|---|
|   | Job Title:   |   |
|   | Products     | Protecta FR Acrylic Protecta Mineral Fibre BIO  |
| 7 | Application  | Fire stopping of cables in rigid floors   |
|   | Construction | Minimum floor thickness of 150  |
| _ |              | mm and comprise aerated concrete or concrete with a minimum density of 650kg/m <sup>3</sup> . |

#### Fire & Sound classification

Single cables  $\leq \emptyset 21$ mm single sided seal top face position

EI 90 & E 120

Single cables Ø23-27mm 1x185mm² core with PVC sheath single sided seal top face position EI 240 & E 240

Sound reduction (seal only)

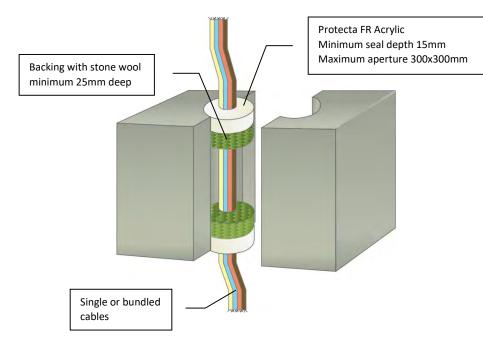
62 dB



Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

| Sheet size: | Drawn date & no: |
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| A4          | 4/3/15           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of cables in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>.

#### Fire & Sound classification

Cables ≤ Ø21mm single or in a bundle

EI 120 & E 120

Cables ≤ Ø50mm single or in a bundle

EI 90 & E 120

Cables ≤ Ø80mm single or in a bundle

EI 60 & E 120

Sound reduction (seal only)

62 dB

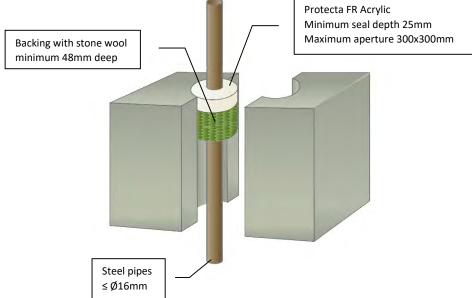


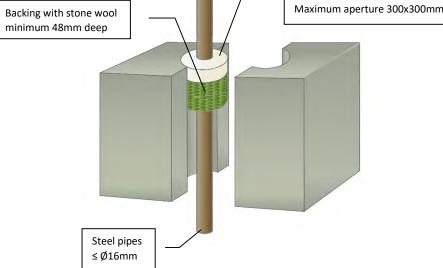
Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Drawn date & no: Sheet size: Α4 4/3/15 Scale: Drawn by: NTS K.B

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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Sheet size:

Email: post.uk@polyseam.com Drawn date & no: 9/4/18

K.B

Scale: Drawn by: NTS

Α4

ETA 13/0879 & 13/0880

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Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of steel pipes in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification

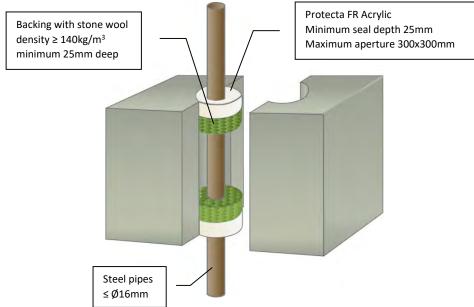
Single sided seal top face

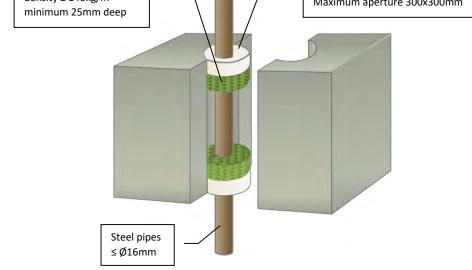
EI 120 C/U & E 120 C/U

Sound reduction (seal only)

62 dB

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.







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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of steel pipes in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification Double sided seal

EI 240 C/U & E 240 C/U

Sound reduction (seal only)

62 dB

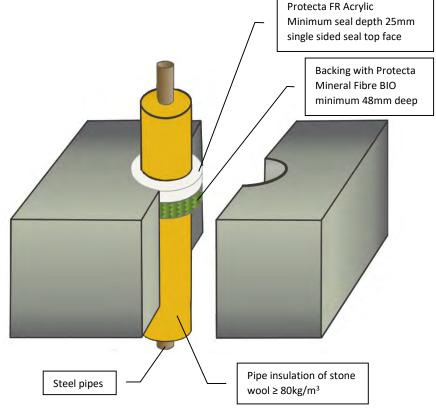


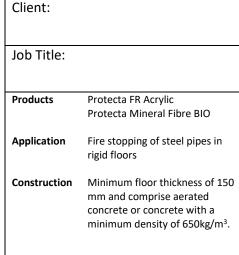
Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints..





#### Fire & Sound classification

Steel pipes ≤ Ø324mm with 20-80mm thick continuous pipe insulation in maximum aperture 300x300mm or Ø505mm

EI 240 C/U & E 240 C/U

Sound reduction (seal only)

62dB



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| Scale:      | Drawn by:        |
| NTS         | K.B              |

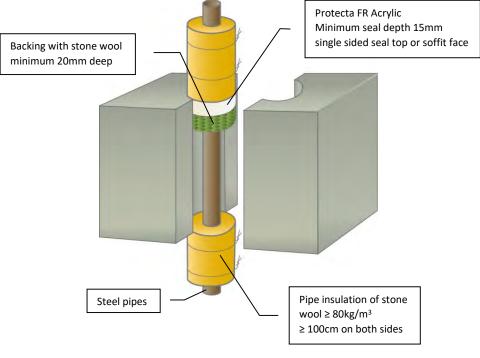
ETA 13/0879 & 13/0880

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

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- As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation guide. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Protecta FR Acrylic
Stone wool
Application
Fire stopping of steel pipes in rigid floors
Construction
Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

#### Fire & Sound classification

Steel pipes  $\leq$  Ø40mm with  $\geq$  20mm thick pipe insulation in maximum aperture 300x300mm EI 60 C/U & E 90 C/U

minimum density of 650kg/m<sup>3</sup>.

Steel pipes  $\leq \emptyset40$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture pipe  $\emptyset + 20$ mm EI 240 C/U & E 240 C/U

Steel pipes ≤ Ø219mm with ≥ 30mm thick pipe insulation in maximum aperture 300x300mm EI 60 C/U & E 90 C/U

Steel pipes  $\leq$  Ø219mm with  $\geq$  30mm thick pipe insulation in maximum aperture pipe + Ø 20mm EI 90 C/U & E 240 C/U

Sound reduction (seal only)

624B



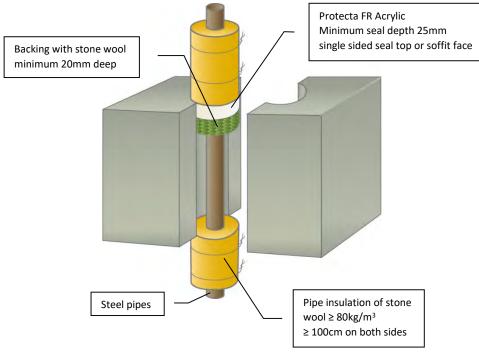
Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 4/3/15
Scale: Drawn by: K.B

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- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic Stone wool

Application Fire stopping of steel pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

### Fire & Sound classification

Steel pipes  $\leq \emptyset40$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm EI 90 C/U & E 120 C/U

minimum density of 650kg/m<sup>3</sup>.

Steel pipes ≤ Ø219mm with ≥ 30mm thick pipe insulation in maximum aperture 300x300mm EI 90 C/U & E 120 C/U

Sound reduction (seal only)

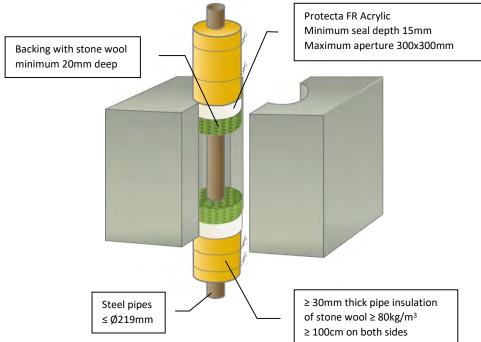
62dB



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| Scale:      | Drawn by:                  |
| NTS         | K.B                        |

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- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

| in         |
|------------|
| 150<br>m³. |
|            |

#### Fire & Sound classification

Double sided seal

EI 120 C/U & E 240 C/U

Sound reduction (seal only)

62dB

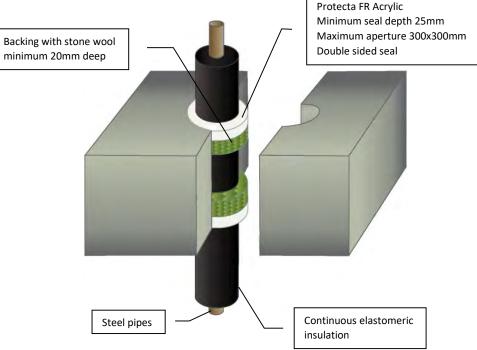


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Tel: +44 (0) 148 4421036

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| A4          | 4/3/15           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
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   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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Signed and approved:

|   | Client:      |  |
|---|--------------|--|
|   | Job Title:   |  |
|   | Products     | Protecta FR Acrylic<br>Stone wool  |
|   | Application  | Fire stopping of steel pipes in rigid floors                                       |
| _ | Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a |

### Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with 13 - 19mm thick pipe insulation

EI 180 C/U & E 180 C/U

minimum density of 650kg/m<sup>3</sup>.

Sound reduction (seal only)

62dB

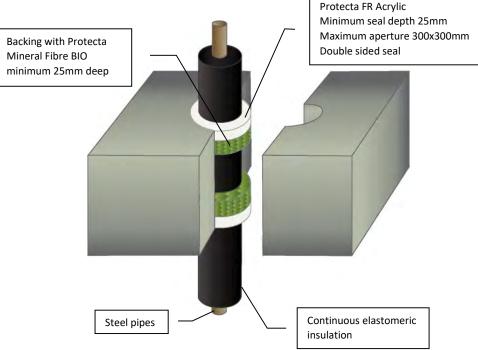


Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

| Sheet size: | Drawn date & no: |
|-------------|------------------|
| A4          | 4/3/15           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- 3. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polvseam.com be found on www.protecta.eu

Signed and approved:

| Client:      |   |
|--------------|---|
| Job Title:   |   |
| Products     | Protecta FR Acrylic<br>Protecta Mineral Fibre BIO   |
| Application  | Fire stopping of steel pipes in rigid floors  |
| Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³. |

### Fire & Sound classification

Steel pipes  $\leq \emptyset 165$ mm with 13 - 19mm thick pipe insulation

EI 60 C/U & E 60 C/U

Sound reduction (seal only)

62dB

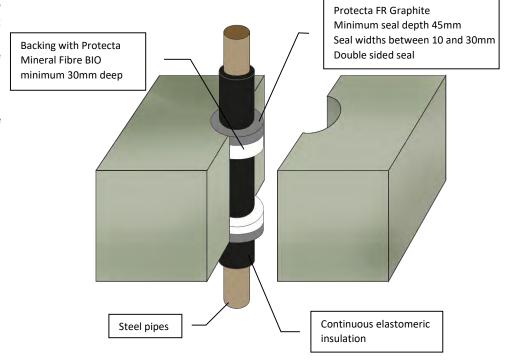


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Tel: +44 (0) 148 4421036

| Sheet size: | Drawn date & no: |
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| A4          | 4/3/15           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- Apply the sealant generously avoiding air bubbles.
   Finish the bead with a moist spatula or pallet knife.
   Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.





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Signed and approved:

| Client:         |   |
|-----------------|---|
|                 |   |
| Job Title:      |   |
| JOB TILIC.      |   |
|                 |   |
| Products        | Protecta FR Graphite                      |
|                 | Protecta Mineral Fibre BIO                |
| Application     | Fire stopping of steel pipes in           |
| ''              | rigid floors                              |
| Construction    | Minimum floor thickness of 150            |
|                 | mm and comprise aerated                   |
|                 | concrete or concrete with a               |
|                 | minimum density of 650kg/m <sup>3</sup> . |
| Fire & Sound c  | lassification                             |
| inc a sound c   | id 33111 Cat 1011                         |
| Steel pipes ≤ Ø | 324mm with 25 – 49mm thick                |
| pipe insulation |   |
|                 | EI 60 C/U                                 |
|                 |   |

Steel pipes  $\leq \emptyset 324$ mm with 50mm thick pipe insulation

EI 120 C/U

Sound reduction (seal only)

Rw 53dB

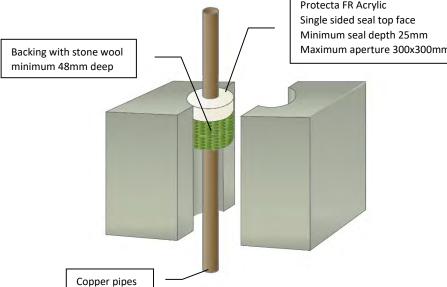


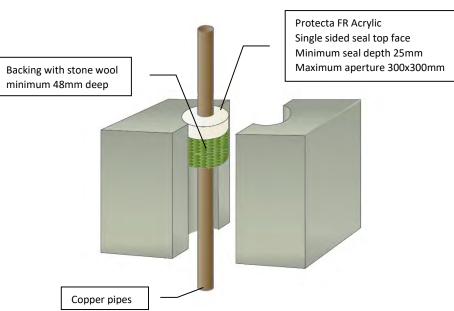
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Tel: +44 (0) 148 4421036

| Sheet size: | Drawn date & no: |
|-------------|------------------|
| A4          | 11/11/18         |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





Protecta FR Acrylic

Fire stopping of copper pipes in

Minimum floor thickness of 150

minimum density of 650kg/m<sup>3</sup>.

EI 120 C/C & E 120 C/C

EI 60 C/C & E 120 C/C

62 dB

mm and comprise aerated

concrete or concrete with a

Stone wool

rigid floors

Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Client:

Job Title:

**Products** 

Application

Construction

Fire & Sound classification

Copper pipes ≤ Ø6mm

Copper pipes ≤ Ø15mm

Sound reduction (seal only)

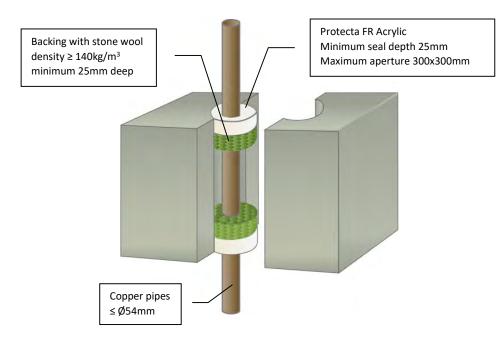
Email: post.uk@polyseam.com Drawn date & no: Sheet size: Α4 9/4/18 Scale: Drawn by: NTS K.B

ETA 13/0879 & 13/0880

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of copper pipes in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification Double sided seal EI 20 C/U & E 120 C/U



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Email: post.uk@polyseam.com

Sound reduction (seal only)

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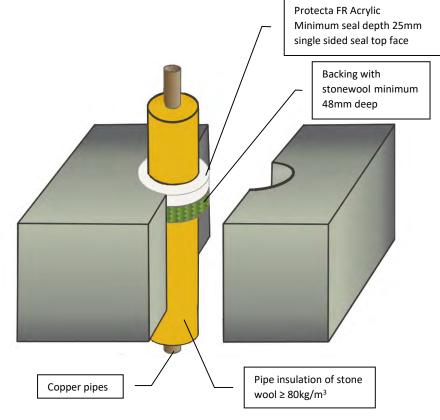
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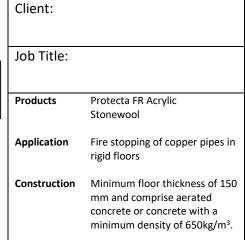
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NTS K.B

62 dB

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- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Copper pipes ≤ Ø54mm with 20-80mm thick continuous pipe insulation in maximum aperture 300x300mm

EI 180 C/C & E 240 C/C

Sound reduction (seal only)

62dB



Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Fmail: nost uk@nolyseam.com

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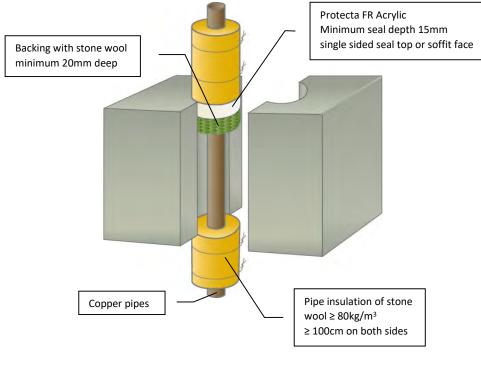
ETA 13/0879 & 13/0880

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- As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation guide. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
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- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products Protecta FR Acrylic
Stone wool
Application Fire stopping of copper pipes in rigid floors
Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

#### Fire & Sound classification

Copper pipes  $\leq$  Ø12mm with  $\geq$  20mm thick pipe insulation in maximum aperture pipe Ø + 20mm EI 240 C/U & E 240 C/U

minimum density of 650kg/m<sup>3</sup>.

Copper pipes ≤  $\emptyset$ 54mm with ≥ 20mm thick pipe insulation in maximum aperture 300x300mm EI 60 C/U & E 90 C/U

Copper pipes  $\leq$  Ø54mm with  $\geq$  20mm thick pipe insulation in maximum aperture pipe + Ø 20mm EI 180 C/U & E 240 C/U

Sound reduction (seal only)

62dB



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Tel: +44 (0) 148 4421036

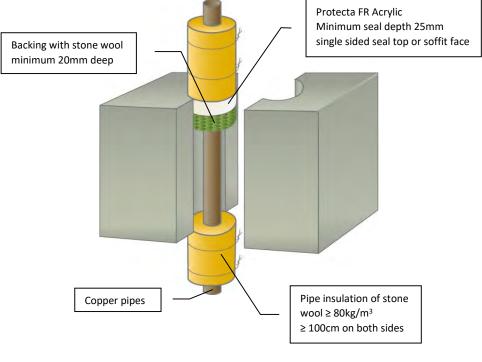
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Scale: Drawn by: K.B

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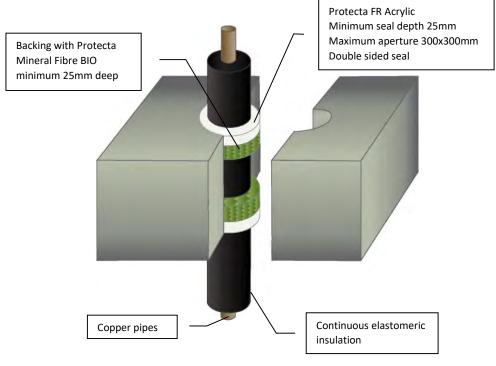
Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of copper pipes in rigid floors Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification Copper pipes  $\leq \emptyset 54$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm EI 120 C/U & E 120 C/U Sound reduction (seal only) 62dB Protect Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 Email: post.uk@polyseam.com Sheet size: Drawn date & no: 4/3/15 Α4 Scale: Drawn by:

NTS

K.B

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
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- Apply the sealant generously to prevent air bubbles.
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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Protecta FR Acrylic
Protecta Mineral Fibre BIO

Application
Fire stopping of copper pipes in rigid floors

Construction
Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³.

# Fire & Sound classification

Copper pipes  $\leq$  Ø12mm with 9mm thick pipe insulation EI 180 C/C & E 240 C/C

Copper pipes  $\leq$  Ø54mm with 9-13mm thick pipe insulation EI 120 C/C & E 180 C/C

Copper pipes  $\leq$  Ø54mm with 14-25mm thick pipe insulation EI 60 C/C & E 90 C/C

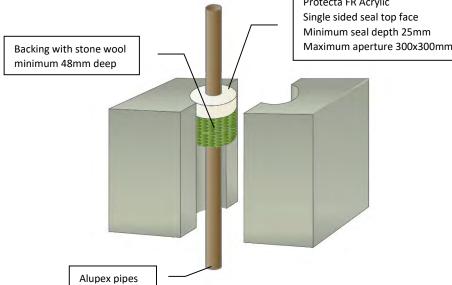
Sound reduction (seal only) 62dB

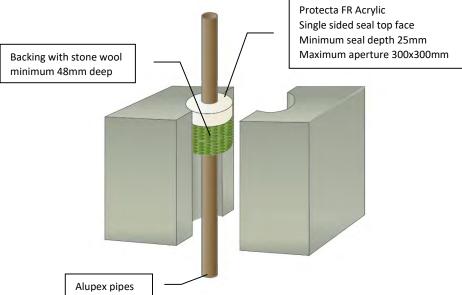


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- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of alupex pipes in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>. Fire & Sound classification Alupex pipes ≤ Ø20mm EI 120 C/C & E 120 C/C Sound reduction (seal only) 62 dB



Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Fmail: nost\_uk@nolyseam.com

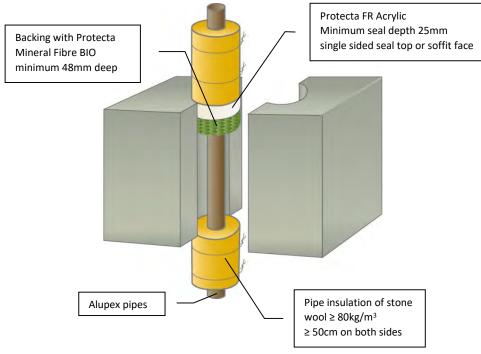
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   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic
Protecta Mineral Fibre BIO

Application Fire stopping of alupex pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³.

#### Fire & Sound classification

Alupex pipes ≤  $\emptyset$ 75mm with ≥ 20mm thick pipe insulation in maximum aperture 300x300mm EI 240 C/C & E 240 C/C

Sound reduction (seal only)

62dB



Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

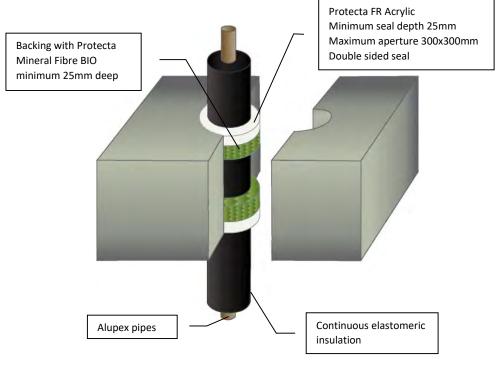
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Scale: Drawn by: K.B

# <u>Installation Instructions</u>

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
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- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
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   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |   |
|--------------|---|
| Job Title:   |   |
| Products     | Protecta FR Acrylic   |
|              | Protecta Mineral Fibre BIO  |
| Application  | Fire stopping of alupex pipes in rigid floors   |
| Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³. |

#### Fire & Sound classification

Alupex pipes  $\leq$  Ø16mm with 9mm thick pipe insulation EI 180 C/C & E 180 C/C

Alupex pipes  $\leq$  Ø75mm with 9-13mm thick pipe insulation EI 60 C/C & E 120 C/C

Alupex pipes  $\leq$  Ø75mm with 14-25mm thick pipe insulation EI 60 C/C & E 60 C/C

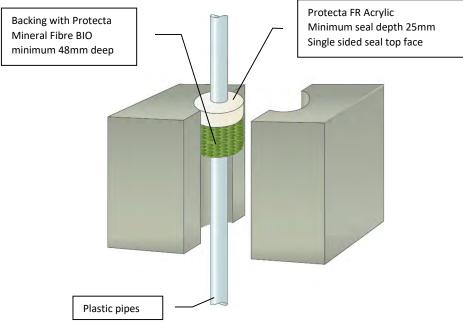
Sound reduction (seal only) 62dB



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| NTS         | K.B              |  |

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- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic
Stone wool

Application Fire stopping of PEX plastic
pipes in rigid floors

Construction Minimum floor thickness of 150
mm and comprise aerated
concrete or concrete with a
minimum density of 650kg/m³.

### Fire & Sound classification

PEX pipe-in-pipe ≤ Ø25mm in maximum aperture Ø85mm

EI 90 C/C & E 90 C/C

Sound reduction (seal only)

62dB



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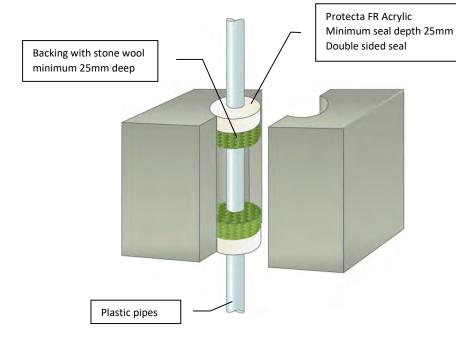
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NTS K.B

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Signed and approved:

|   | Client:      |                                   |
|---|--------------|-----------------------------------|
|   |              |                                   |
|   |              |                                   |
|   | Job Title:   |                                   |
|   |              |                                   |
|   |              |                                   |
|   | Products     | Protecta FR Acrylic               |
|   |              | Stone wool                        |
| ٦ | Application  | Fire stopping of plastic pipes in |
|   |              | rigid floors                      |
|   | Construction | Minimum floor thickness of 150    |
|   |              | mm and comprise aerated           |

### Fire & Sound classification

concrete or concrete with a

minimum density of 650kg/m<sup>3</sup>.

### EI 240 U/C & E 240 U/C

PP pipe  $\leq$  Ø75mm with wall thickness 1.2-2.8mm in maximum aperture pipe Ø + 60mm

### EI 180 U/C & E 180 U/C

PP pipes ≤ Ø75mm with wall thickness 1.2-6.8mm in maximum aperture 300x300mm

### EI 90 U/C & E 90 U/C

Sound reduction (seal only)

EI 90 U/C & E 90 U/C

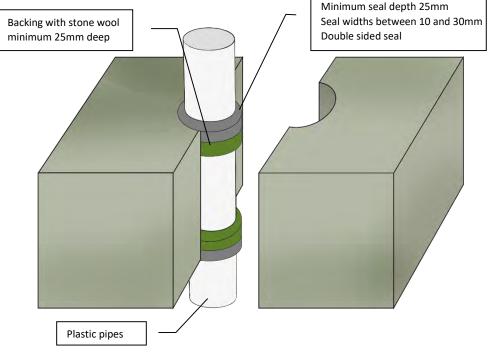


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| NTS         | K.B              |

# <u>Installation Instructions</u>

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- Apply the sealant generously avoiding air bubbles.
   Finish the bead with a moist spatula or pallet knife.
   Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Protecta FR Graphite

Signed and approved:

| Client:                             |  |                          |
|-------------------------------------|--|--------------------------|
| Job Title:                          |  |                          |
| Products                            | Protecta FR Graphit                    | te                       |
|                                     | Stone wool                             |                          |
| Application                         | Fire stopping of pla rigid floors      | stic pipes in            |
| Construction                        | Minimum floor thic                     | kness of 150             |
|                                     | mm and comprise a                      |                          |
|                                     | concrete or concret                    |                          |
|                                     | minimum density o                      | f 650kg/m <sup>3</sup>   |
| Fire & Sound cl                     |  | t a montale              |
| wall thickness 1                    | -C pipe ≤ 40 mm diar                   | meter with<br>EI 240 U/U |
|                                     |  | •                        |
|                                     | -C pipe ≤ 110 mm dia                   |                          |
| wall thickness 1                    | 8-6.6mm                                | EI 90 C/U                |
| PE, ABS and SAI with wall thickn    | N+PVC pipe ≤ 40 mm<br>ness 2.4-3.7mm   | ı diameter               |
|                                     | EI 60 U/U                              | & EI 240 U/C             |
| PE, ABS and SAI                     | N+PVC pipe ≤ 110 mi                    | m diameter<br>EI 60 U/C  |
|                                     |  | ,                        |
| *                                   | N+PVC pipe ≤ 110 mı<br>ness 4.3-10.0mm | El 90 U/C                |
| PE, ABS and SAI<br>with wall thickr | N+PVC pipe ≤ 110 m<br>ness 10.0mm      | m diameter<br>EI 60 U/U  |
| PP pipe ≤ 40 mr                     | m diameter with wal                    | l thickness              |

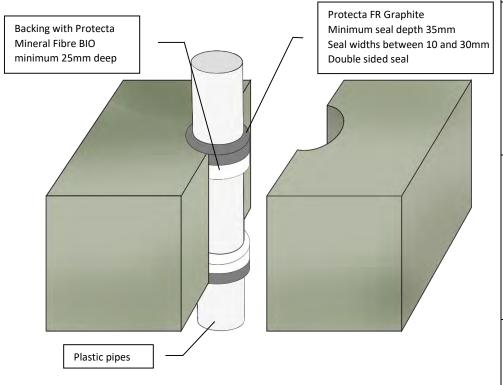
PE, ABS and SAN+PVC pipe ≤ 110 mm diameter with wall thickness 10.0mm EI 60 U/U
PP pipe ≤ 40 mm diameter with wall thickness
1.8mm EI 120 C/C
PP pipe ≤ 110 mm diameter with wall thickness
1.8-6.3mm EI 30 U/C
Sound reduction (seal only) 53dB



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| Α4          | 11/11/18         |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- Apply the sealant generously avoiding air bubbles.
   Finish the bead with a moist spatula or pallet knife.
   Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Graphite<br>Stone wool   |
| Application  | Fire stopping of plastic pipes in rigid floors   |
| Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m <sup>3</sup> |

### Fire & Sound classification

PVC-U and PVC-C pipe  $\leq$  160 mm diameter with wall thickness 4.0-9.5mm EI 60 U/C

PE, ABS and SAN+PVC pipe ≤ 160 mm diameter with wall thickness 4.9-14.6mm EI 30 U/C

PE, ABS and SAN+PVC pipe  $\leq$  160 mm diameter with wall thickness 14.6mm EI 60 U/C

Sound reduction (seal only)

<sup>2</sup>rotecta

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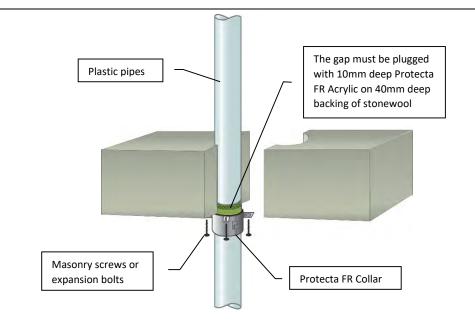
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| NTS         | K.B              |

53dB

- 1. A single pipe collar is installed on the underside of the floor.
- 2. Before fitting the pipe collar ensure that the gaps between the pipe and the separating element are sealed.
- 3. Place a pipe collar around the service penetration (pipe) and ensure that the fixing lugs are positioned tightly to the surface of the floor so that the fixings can be inserted fully.
- 4. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the pipe collar.
- 5. Attach the pipe collar with steel screws or fixings that are suitable for the substrate that the pipe collar will be fitted to; use  $\geq \emptyset 4 \times 50$ mm long masonry screws or expansion bolts.
- 6. On site where the penetration size is greater than the pipe diameter and/or the pipe is in an angle an oversized collar can be used. Protecta® FR Collars are tested 'oversize', i.e. the internal diameter of the collar can be larger than the pipe.



| Services                   | Minimum Collar<br>Height | Classification                                 |
|----------------------------|--------------------------|--|
| ≤ Ø110mm PVC-U & PVC-C     | 30mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U     |
| ≤ Ø110mm PVC-U & PVC-C     | 50mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø125mm PVC-U & PVC-C     | 60mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø160mm PVC-U & PVC-C     | 60mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø50mm PE, ABS & SAN+PVC  | 30mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U     |
| ≤ Ø50mm PE, ABS & SAN+PVC  | 50mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø110mm PE, ABS & SAN+PVC | 50mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø160mm PE, ABS & SAN+PVC | 60mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø50mm PP                 | 30mm                     | EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U |
| ≤ Ø110mm PP                | 50mm                     | EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø125mm PP                | 60mm                     | EI 120 C/C, EI 120 U/C                         |
| ≤ Ø160mm PP                | 60mm                     | EI 180 C/C, EI 180 U/C                         |



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Collar   |
| Application  | Fire stopping of plastic pipes in rigid floors with gap widths of minimum 10mm   |
| Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m <sup>3</sup> |

### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

58dB

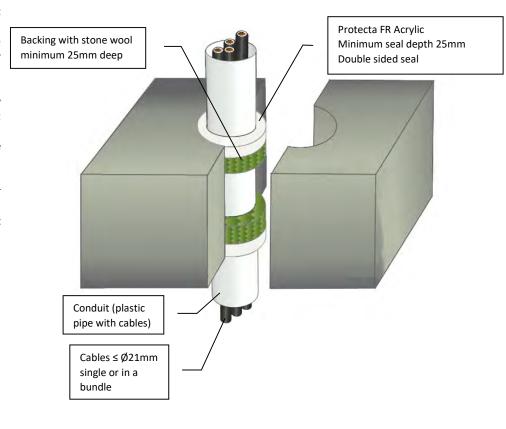


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| NTS         | K.B              |

# <u>Installation Instructions</u>

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic Stone wool

Application Fire stopping of conduits in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

PE, ABS & SAN+PVC conduits/pipes  $\leq$  Ø40mm with wall thickness 2.0 – 2.4mm

EI 180 U/C & E 180 U/C

PP conduits/pipes  $\leq$  Ø40mm with wall thickness 1.2 – 1.8mm EI 180 U/C & E 180 U/C

PVC-U & PVC-C conduits/pipes ≤ Ø40mm with wall thickness 1.6 – 3.7mm

EI 240 U/C & E 240 U/C

Sound reduction (seal only)

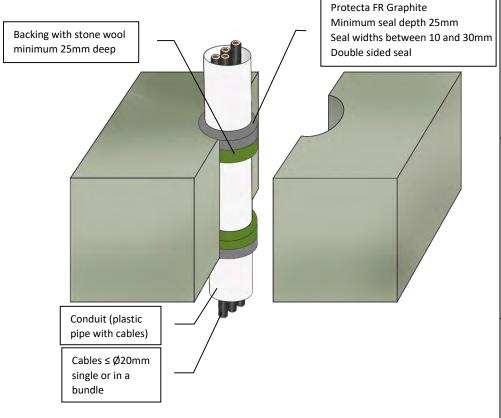
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| NTS         | K.B                     |

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- Apply the sealant generously avoiding air bubbles.
   Finish the bead with a moist spatula or pallet knife.
   Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Graphite Stone wool

Application Fire stopping of conduits in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

PE, ABS & SAN+PVC conduits/pipes ≤ Ø110mm with wall thickness 2.4 - 10.0mm EI 60 U/C

PP conduits/pipes ≤ Ø110mm with wall thickness 2.7mm EI 90 U/C

PVC-U & PVC-C conduits/pipes ≤ Ø110mm with wall thickness 1.8-6.6mm EI 90 U/C

Sound reduction (seal only) Rw 53dB



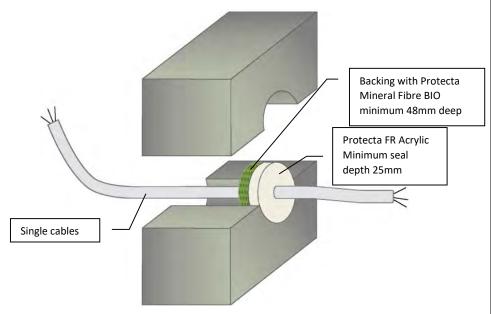
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Scale: Drawn by: K.B

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Acrylic<br>Protecta Mineral Fibre BIO  |
| Application  | Fire stopping of cables in rigid walls   |
| Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³ |

### Fire & Sound classification

Cables ≤ Ø21mm single sided seal in maximum aperture 300x300mm EI 60 & E 240

Cables ≤ Ø21mm single sided seal in maximum aperture Ø87mm EI 90 & E 240

Cables ≤ Ø21mm single sided seal in maximum aperture 35x35mm El 120 & E 240

Sound reduction (seal only)



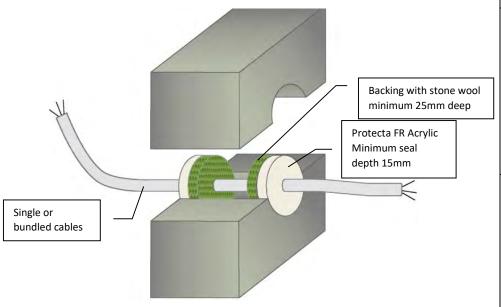
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| NTS         | K.B              |

62 dB

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

| Client:      |   |
|--------------|---|
| Job Title:   |   |
| Products     | Protecta FR Acrylic<br>Stone wool   |
| Application  | Fire stopping of cables in rigid walls  |
| Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of $\geq$ 650 kg/m <sup>3</sup> |

### Fire & Sound classification

Cables ≤ Ø21mm single or in a bundle in double sided seal in maximum aperture 300x300mm EI 120 & E 240

Cables ≤ Ø80mm single or in a bundle in double sided seal in maximum aperture 300x300mm EI 60 & E 120

Sound reduction (seal only) 62 dB

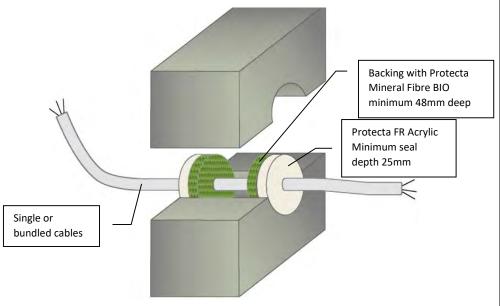


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| NTS         | K.B              |

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Acrylic  |
|              | Protecta Mineral Fibre BIO   |
| Application  | Fire stopping of cables in rigid walls   |
| Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m <sup>3</sup> |

### Fire & Sound classification

Cables  $\leq \emptyset21$ mm in tied bundles  $\leq \emptyset100$ mm in double sided seal in maximum aperture 300x300mm

EI 240 & E 240

Cables ≤ Ø80mm single or in a bundle in double sided seal in maximum aperture 300x300mm
EI 60 & E 240

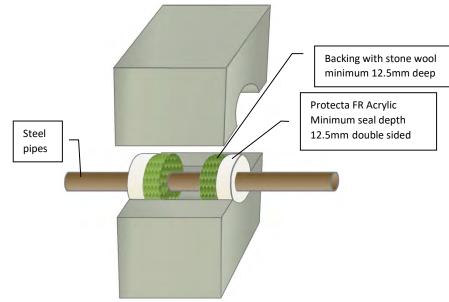
Sound reduction (seal only)

()) Protecta

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| NTS         | K.B              |

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Client:

Products

Protecta FR Acrylic
Stone wool

Application

Fire stopping of steel pipes in rigid walls

Construction

Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Steel pipes ≤ Ø30mm without pipe insulation in maximum aperture 300x300mm

EI 90 C/C & E 90 C/C

Sound reduction (seal only)

62dB



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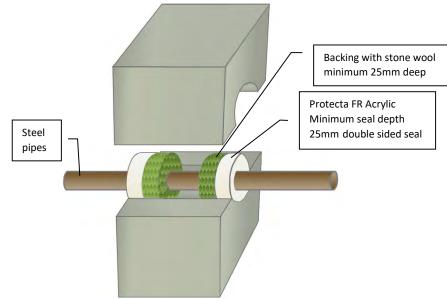
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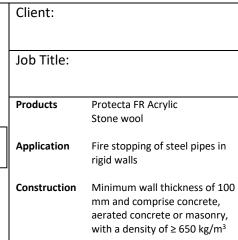
ETA 13/0879 & 13/0880

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- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Steel pipes Ø22 – Ø30mm without pipe insulation in maximum aperture 300x300mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB



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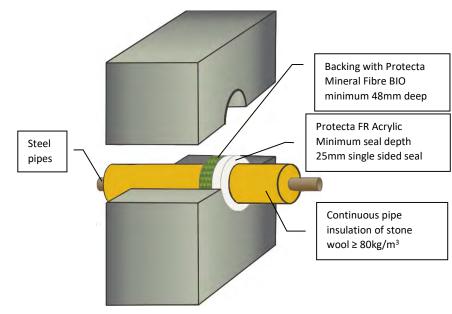
Propose Tripping Management

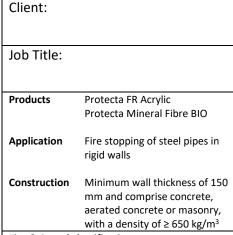
ETA 13/0879 & 13/0880

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





### Fire & Sound classification

Steel pipes ≤ Ø40mm with 20mm thick pipe insulation in maximum aperture 300x300mm or Ø505mm

EI 240 C/U & E 240 C/U

Steel pipes ≤ Ø324mm with 20-80mm thick pipe insulation in maximum aperture 300x300mm or Ø505mm

EI 180 C/U & E 180 C/U

Sound reduction (seal only)

62dB



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Email: post.uk@polyseam.com

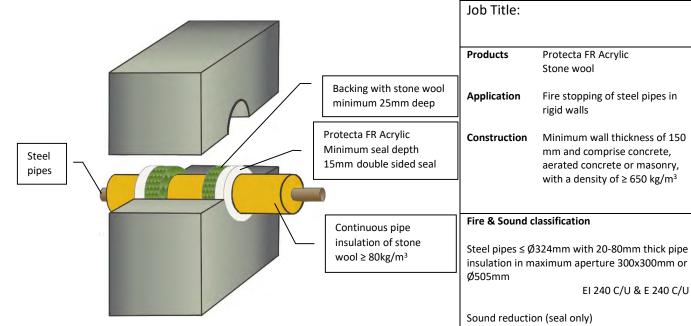
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| NTS         | K.B              |



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- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

Signed and approved:

62dB Protect

Protecta FR Acrylic

Fire stopping of steel pipes in

Minimum wall thickness of 150

mm and comprise concrete.

aerated concrete or masonry,

with a density of  $\geq$  650 kg/m<sup>3</sup>

EI 240 C/U & E 240 C/U

Stone wool

rigid walls

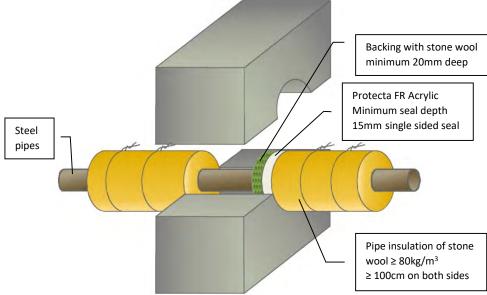
Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Client:

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| NTS         | K.B              |

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- Apply the sealant generously to prevent air bubbles.
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Signed and approved:

| Client:      |                                 |
|--------------|---------------------------------|
| Job Title:   |                                 |
| Products     | Drotosta ED Asmilia             |
| Products     | Protecta FR Acrylic             |
|              | Stone wool                      |
| Application  | Fire stopping of steel pipes in |
|              | rigid walls                     |
| Construction | Minimum wall thickness of 150   |
|              | mm and comprise concrete,       |
|              | aerated concrete or masonry,    |

### Fire & Sound classification

Steel pipes  $\leq$  Ø40mm with  $\geq$  20mm thick pipe insulation in maximum aperture 300x300mm EI 60 C/U & E 240 C/U

with a density of ≥ 650 kg/m<sup>3</sup>

Steel pipes  $\leq$  Ø40mm with  $\geq$  20mm thick pipe insulation in maximum aperture pipe Ø + 36mm EI 240 C/U & E 240 C/U

Steel pipes ≤ Ø219mm with ≥ 30mm thick pipe insulation in maximum aperture 300x300mm EI 60 C/U & E 180 C/U

Steel pipes  $\leq$  Ø219mm with  $\geq$  30mm thick pipe insulation in maximum aperture pipe Ø + 36mm EI 90 C/U & E 180 C/U

Sound reduction (seal only)

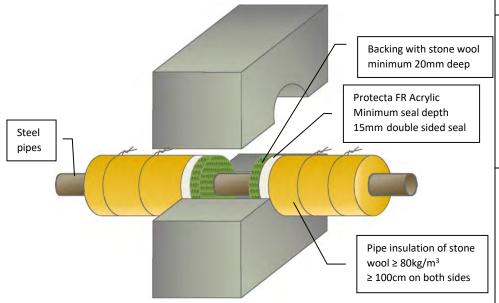
62dB

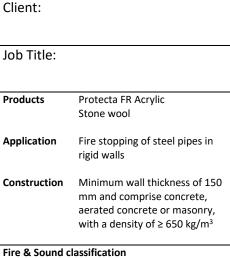


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| NTS         | K.B              |

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- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





Steel pipes ≤ Ø219mm with ≥ 30mm thick pipe insulation in maximum aperture 300x300mm

EI 120 C/U & E 240 C/U

Sound reduction (seal only)

62dB

Protecta

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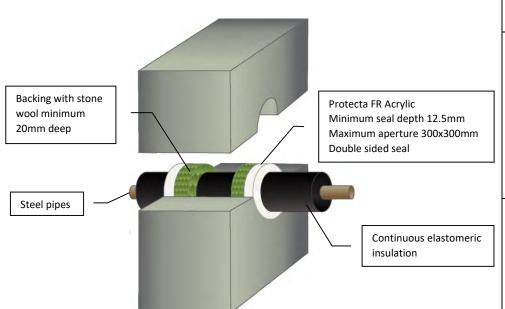
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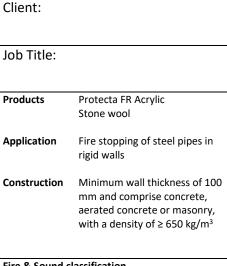


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- 4. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





### Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with 13 - 19mm thick pipe insulation

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB



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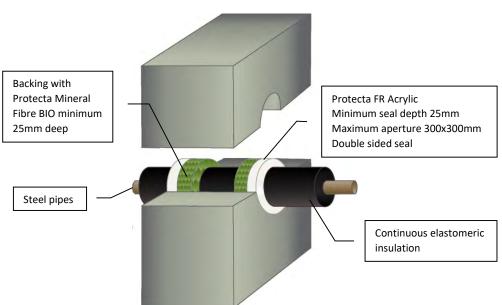
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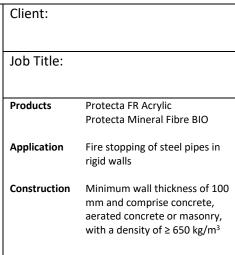


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   Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





### Fire & Sound classification

Steel pipes  $\leq \emptyset 165$ mm with 13 - 19mm thick pipe insulation

EI 60 C/C & E 120 C/C

Sound reduction (seal only)

62dB



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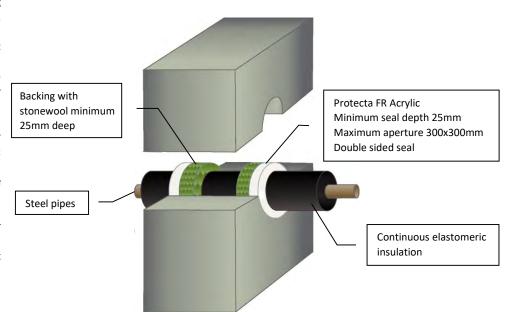
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Signed and approved:

Client:

Products

Protecta FR Acrylic
Protecta Mineral Fibre BIO

Application

Fire stopping of steel pipes in rigid walls

Construction

Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Steel pipes ≤ Ø22mm with 13mm thick pipe insulation EI 180 C/U & E 240 C/U

Steel pipes  $\leq$  Ø114mm with 13 – 25mm thick pipe insulation EI 90 C/U & E 120 C/U

Steel pipes  $\leq$  Ø114mm with 26 – 50mm thick pipe insulation EI 60 C/U & E 60 C/U

Sound reduction (seal only)

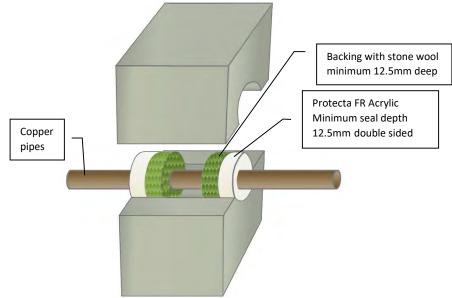
62dB



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| NTS         | K.B                        |

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#### Fire & Sound classification

Copper pipes ≤ Ø6mm without pipe insulation in maximum aperture 300x300mm

EI 60 C/C & E 90 C/C

Copper pipes ≤ Ø22mm without pipe insulation in maximum aperture 300x300mm

EI 30 C/C & E 90 C/C

Sound reduction (seal only)

62dB



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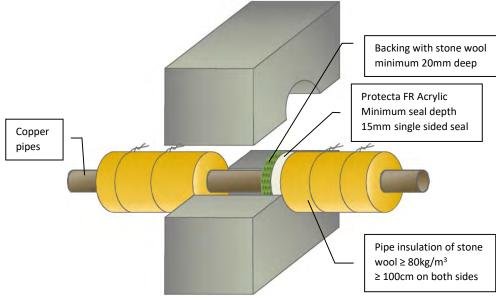
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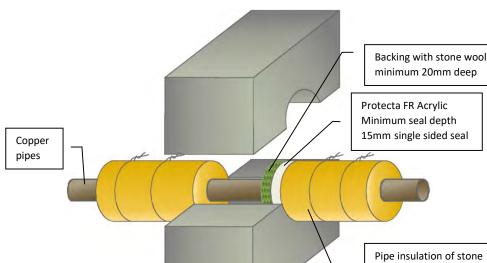


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Client: Job Title: **Products** Protecta FR Acrylic Stone wool **Application** Fire stopping of copper pipes in rigid walls Minimum wall thickness of 150 Construction mm and comprise concrete,

#### Fire & Sound classification

Copper pipes  $\leq \emptyset 12mm$  with  $\geq 20mm$  thick pipe insulation in maximum aperture pipe Ø + 16mm EI 240 C/U & E 240 C/U

aerated concrete or masonry.

with a density of ≥ 650 kg/m<sup>3</sup>

Copper pipes  $\leq \emptyset$ 54mm with  $\geq$  20mm thick pipe insulation in maximum aperture 300x300mm EI 60 C/U & E 240 C/U

Copper pipes  $\leq \emptyset 54$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture pipe Ø + 18mm EI 180 C/U & E 240 C/U

Sound reduction (seal only)

62dB



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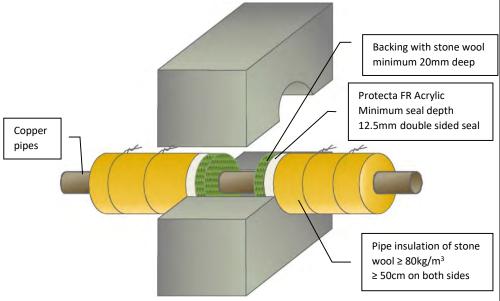
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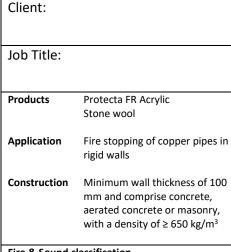


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- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Copper pipes  $\leq \emptyset 54$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm

EI 120 C/U & E 120 C/U

Sound reduction (seal only)

62dB

Protecta<sup>®</sup>

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Email: post.uk@polyseam.com

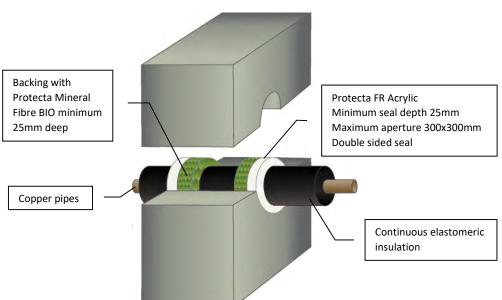
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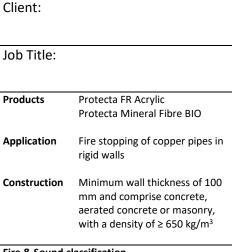


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- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Copper pipes ≤ Ø12mm with 9mm thick pipe insulation EI 120 C/C & E 120 C/C

Copper pipes  $\leq \emptyset$ 54mm with 9-13mm thick pipe insulation EI 60 C/C & E 120 C/C

Copper pipes  $\leq \emptyset$ 54mm with 14-25mm thick pipe insulation EI 60 C/C & E 60 C/C

Sound reduction (seal only) 62dB



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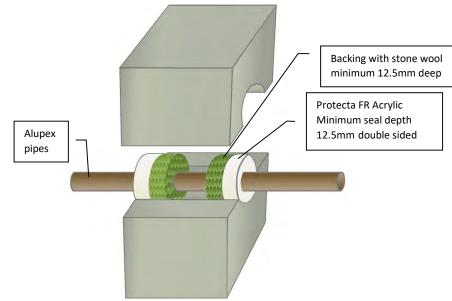
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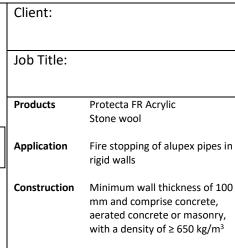


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- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Alupex pipes ≤ Ø20mm without pipe insulation in maximum aperture 300x300mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB

Protecta®
Polyseam Ltd, 15 St Andrews Road,

Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

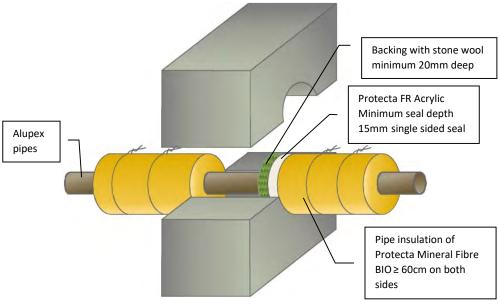
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#### Fire & Sound classification

Alupex pipes ≤ Ø75mm with ≥ 25mm thick pipe insulation in maximum aperture 300x300mm

EI 60 C/U & E 120 C/U

Alupex pipes  $\leq \emptyset 75$ mm with  $\geq 25$ mm thick pipe insulation in maximum aperture pipe  $\emptyset + 60$ mm

EI 120 C/U & E 120 C/U

Sound reduction (seal only)

62dB



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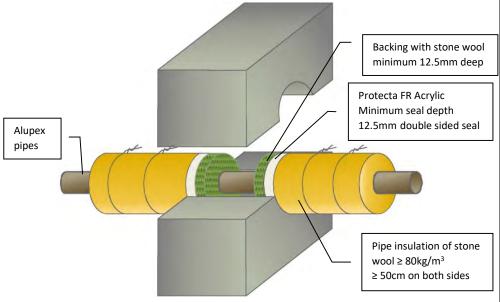
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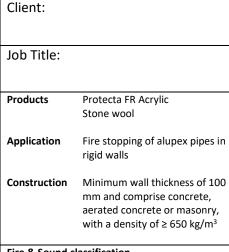


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#### Fire & Sound classification

Alupex pipes  $\leq \emptyset75$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB

Protecta<sup>®</sup>

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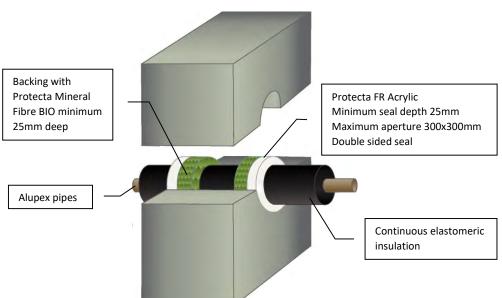
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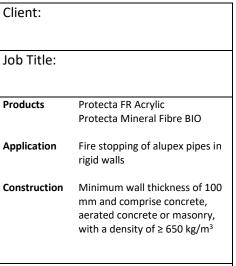
ETA 13/0879 & 13/0880

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   Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Alupex pipes  $\leq$  Ø16mm with 9mm thick pipe insulation EI 120 C/C & E 120 C/C

Alupex pipes  $\leq$  Ø75mm with 9 - 25mm thick pipe insulation EI 60 C/C & E 60 C/C

Sound reduction (seal only) 62dB



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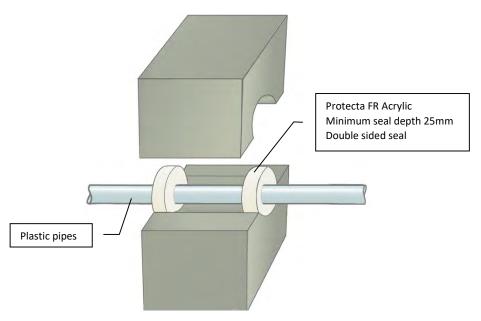
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ETA 13/0879 & 13/0880

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic **Application** Fire stopping of plastic pipes in rigid walls Construction Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry,

#### Fire & Sound classification

PVC-U & PVC-C pipes ≤ Ø32mm with wall thickness 1.0-2.4mm in maximum aperture pipe  $\emptyset + 20mm$ EI 120 U/C & E 120 U/C PVC-U & PVC-C pipes ≤ Ø32mm with wall thickness 1.0-2.4mm in maximum aperture pipe Ø + 60mm EI 90 U/C & E 120 U/C PE, ABS & SAN+PVC pipe Ø20mm with wall thickness 2.0mm in maximum aperture pipe Ø + EI 120 U/C & E 120 U/C 60mm PP pipe Ø20mm with wall thickness 2.2mm in maximum aperture pipe Ø + 60mm EI 120 U/C & E 120 U/C

with a density of  $\geq$  650 kg/m<sup>3</sup>

PP pipes ≤ Ø32mm with wall thickness 2.0-4.4mm in maximum aperture pipe Ø + 60mm

EI 60 U/C & E 60 U/C

Sound reduction (seal only)

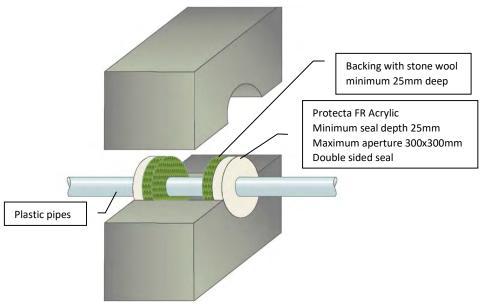
Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: Α4 23/4/15 Scale: Drawn by: NTS K.B

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Signed and approved:

|   | Client:      |  |
|---|--------------|--|
|   | Job Title:   |  |
|   | Products     | Protecta FR Acrylic<br>Stonewool   |
| 7 | Application  | Fire stopping of plastic pipes in rigid walls  |
|   | Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, |

#### Fire & Sound classification

PVC-U & PVC-C pipes Ø32mm with wall thickness 1.6mm

EI 240 U/C & E 240 U/C

with a density of ≥ 650 kg/m<sup>3</sup>

PE, ABS & SAN+PVC pipe ≤ Ø32mm with wall thickness 2.0mm

EI 240 C/U & E 240 C/U

PP pipes Ø32mm with wall thickness 2.0-4.4mm

EI 180 C/U & E 180 C/U

Sound reduction (seal only)

 $\mathcal{N}$ 

Protecta

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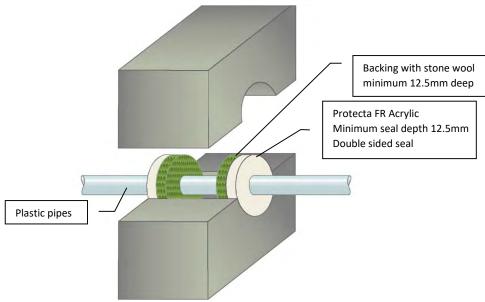
Tel: +44 (0) 148 4421036

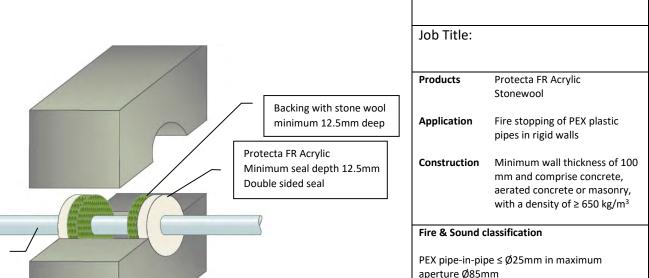
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Client:



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Signed and approved:



Sound reduction (seal only)

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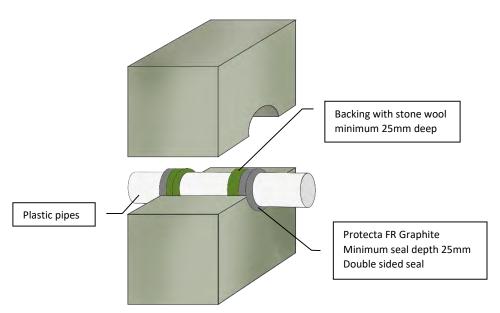
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| NTS         | K.B                     |

EI 120 C/C & E 120 C/C

62dB

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- Apply the sealant generously avoiding air bubbles.
   Finish the bead with a moist spatula or pallet knife.
   Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products
Protecta FR Graphite
Stone wool
Application
Fire stopping of plastic pipes in rigid walls
Construction
Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

#### Fire & Sound classification

PVC-U and PVC-C pipe  $\leq$  110 mm diameter with wall thickness 1.9-6.6mm in seal widths between 10 and 30mm EI 120 U/C

PE, ABS and SAN+PVC pipe ≤ 40 mm diameter with wall thickness 2.4-3.7mm in seal widths between 10 and 30mm EI 120 U/C

PE, ABS and SAN+PVC pipe ≤ 110 mm diameter with wall thickness 2.4-4.2mm in seal widths between 10 and 30mm EI 60 U/C

PE, ABS and SAN+PVC pipe ≤ 110 mm diameter with wall thickness 4.3-10.0mm in seal widths between 10 and 30mm EI 90 U/C & E 120 U/C

Sound reduction (seal only)

Rw 53dB



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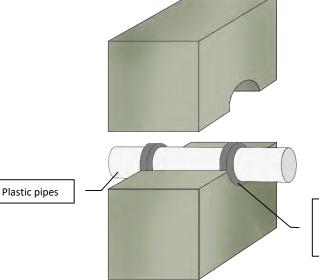
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Email: post.uk@polyseam.com

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Scale: Drawn by: K.B

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Protecta FR Graphite Minimum seal depth 25mm Double sided seal



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Signed and approved:

| Client:      |  |
|--------------|--|
|              |  |
| Job Title:   |  |
|              |  |
| Products     | Protecta FR Graphite   |
| Application  | Fire stopping of plastic pipes in rigid walls  |
| Construction | Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, |

#### Fire & Sound classification

PVC-U and PVC-C pipe  $\leq$  160 mm diameter with wall thickness 3.2-9.5mm in seal widths between 10 and 30mm EI 30 U/C

with a density of ≥ 650 kg/m<sup>3</sup>

PVC-U and PVC-C pipe  $\leq$  160 mm diameter with wall thickness 9.5mm in seal widths between 10 and 30mm EI 90 U/C

PP pipe  $\leq$  110 mm diameter with wall thickness 1.8-6.3mm in seal widths between 10 and 30mm EI 60 U/C

Sound reduction (seal only)

Rw 53dB



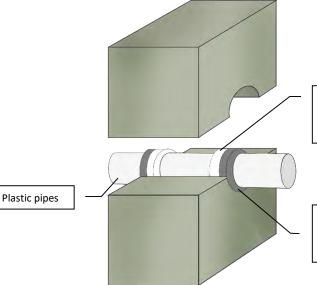
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Backing with Protecta Mineral Fibre BIO minimum 25mm deep Protecta FR Graphite Minimum seal depth 35mm Double sided seal

Client: Job Title: **Products** Protecta FR Graphite **Application** Fire stopping of plastic pipes in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete. aerated concrete or masonry,

#### Fire & Sound classification

PVC-U and PVC-C pipe ≤ 160 mm diameter with wall thickness 4.0-9.5mm in seal widths between 10 and 30mm

with a density of ≥ 650 kg/m<sup>3</sup>

EI 90 U/C

PVC-U and PVC-C pipe ≤ 160 mm diameter with wall thickness 9.5mm in seal widths between 10 and 30mm

EI 180 U/C & E 240 U/C

Sound reduction (seal only)

Rw 53dB



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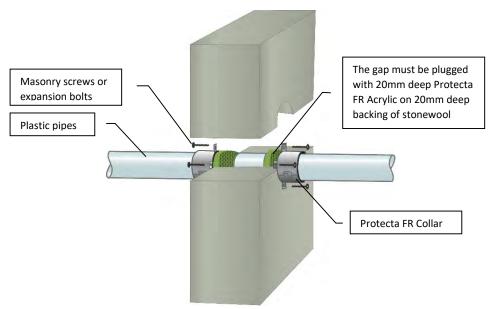
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- 1. For sealing plastic pipes, a pipe collar is installed on both sides of the wall.
- 2. Before fitting the pipe collar ensure that the gaps between the pipe and the separating element are sealed.
- 3. Place a pipe collar around the service penetration (pipe) and ensure that the fixing lugs are positioned tightly to the surface of the wall so that the fixings can be inserted fully.
- 4. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the wall/floor and the pipe collar.
- 5. Attach the pipe collar with steel screws or fixings that are suitable for the substrate that the pipe collar will be fitted to. Use  $\geq \emptyset 4 \times 50$ mm long masonry screws or expansion bolts.
- 6. On site where the penetration size is greater than the pipe diameter and/or the pipe is in an angle an oversized collar can be used. Protecta® FR Collars are tested 'oversize', i.e. the internal diameter of the collar can be larger than the pipe.



| Services                      | Minimum Collar<br>Height | Classification                                 |
|-------------------------------|--------------------------|--|
| ≤ Ø110mm PVC-U & PVC-C        | 30mm                     | EI 60 C/C, EI 60 U/C                           |
| ≤Ø110mm PVC-U & PVC-C         | 50mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |
| ≤ Ø160mm PVC-U & PVC-C        | 60mm                     | EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U |
| Ø315x9.2mm PVC-U & PVC-C      | 75mm                     | EI 120 C/C                                     |
| ≤ Ø50mm PE, ABS & SAN+PVC     | 30mm                     | EI 60 C/C, EI 60 U/C, EI 45 C/U, EI 45 U/U     |
| ≤ Ø50mm PE, ABS & SAN+PVC     | 50mm                     | EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 30mm                     | EI 60 C/C, EI 60 U/C                           |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 50mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |
| ≤ Ø160mm PE, ABS & SAN+PVC    | 60mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |
| Ø200x18.2mm PE, ABS & SAN+PVC | 75mm                     | EI 60 C/C                                      |
| Ø250x22.7mm PE, ABS & SAN+PVC | 75mm                     | EI 90 C/C                                      |
| ≤ Ø50mm PP                    | 30mm                     | EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U |
| ≤ Ø110mm PP                   | 30mm                     | EI 60 C/C, EI 60 U/C                           |
| ≤ Ø110mm PP                   | 50mm                     | EI 240 C/C, EI 240 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø125mm PP                   | 60mm                     | EI 180 C/C, EI 180 U/C, EI 60 C/U, EI 60 U/U   |
| ≤ Ø160mm PP                   | 60mm                     | EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U |



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Collar<br>Protecta FR Acrylic  |
| Application  | Fire stopping of plastic pipes in rigid walls with gap widths of minimum 8mm   |
| Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m <sup>3</sup> |

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

58dB



Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

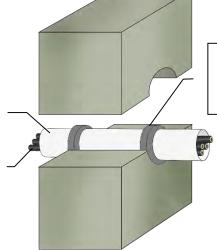
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| NTS         | K.B              |

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- Apply the sealant generously avoiding air bubbles.
   Finish the bead with a moist spatula or pallet knife.
   Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- 5. Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.

Conduit (plastic pipe with cables)

Cables ≤ Ø20mm

Cables ≤ Ø20mm single or in a bundle



Protecta FR Graphite
Minimum seal depth 25mm
Seal widths between 10 and 30mm
Double sided seal

 Job Title:

 Products
 Protecta FR Graphite

 Application
 Fire stopping of conduits in rigid walls

 Construction
 Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

 Fire & Sound classification

Client:

PE, ABS & SAN+PVC conduits/pipes  $\leq$  Ø110mm with wall thickness 2.4 - 10.0mm EI 60 U/C

PP conduits/pipes  $\leq$  Ø110mm with wall thickness 2.7 - 6.6mm EI 90 U/C

PVC-U & PVC-C conduits/pipes ≤ Ø110mm with wall thickness 1.9 - 6.6mm EI 90 U/C

Sound reduction (seal only) Rw 53dB

Protecto®
Polyseam Ltd, 15 St Andrews Road,

Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

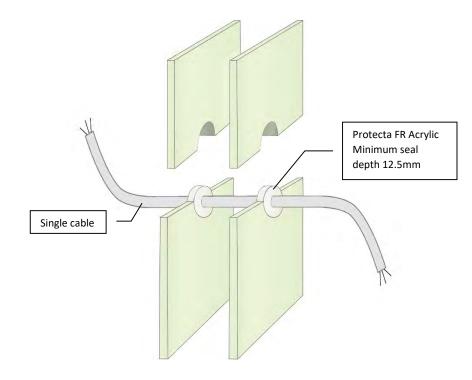
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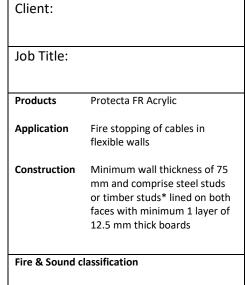


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- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





Cables ≤ Ø21mm in double sided seal in maximum aperture 150x150mm

EI 45 & E 60

Sound reduction (seal only)

62 dB



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Tel: +44 (0) 148 4421036

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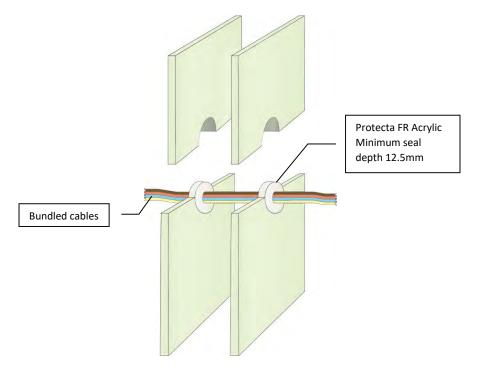
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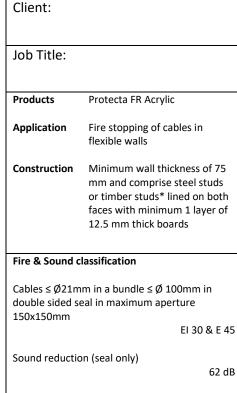
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- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.







Huddersfield, West Yorkshire, HD1 6SB

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Email: post.uk@polyseam.com

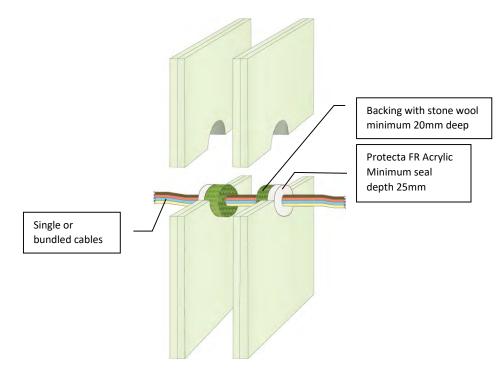
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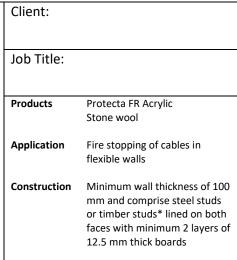
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- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





# Fire & Sound classification

Cables ≤ Ø21mm single or in a bundle in double sided seal in maximum aperture 300x300mm EI 120 & E 120

Sound reduction (seal only)

62 dB



Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

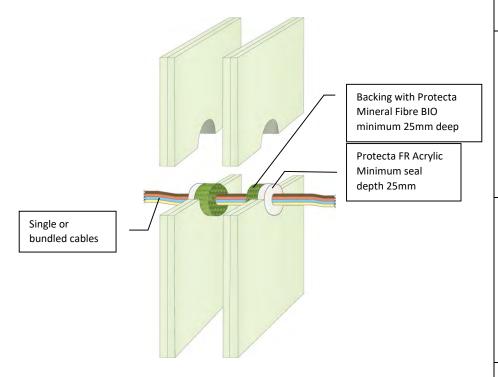
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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polyseam.com be found on www.protecta.eu

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- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polvseam.com be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Protecta Mineral Fibre BIO Application Fire stopping of cables in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

#### Fire & Sound classification

Cables ≤ Ø80mm single or in a bundle in double sided seal in maximum aperture 300x300mm EI 60 & E 120

Sound reduction (seal only)

62 dB

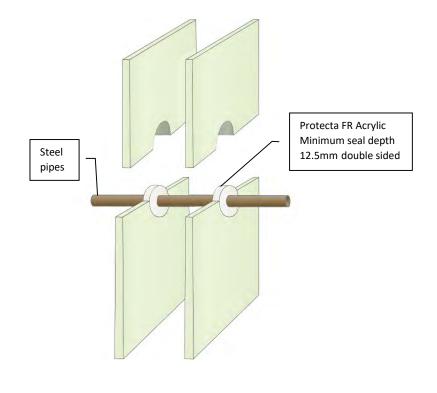


Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- 8. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Job Title: **Products** Protecta FR Acrylic **Application** Fire stopping of steel pipes in flexible walls Construction Minimum wall thickness of 75 mm and comprise steel studs or timber studs\* lined on both faces with minimum 1 layer of 12.5 mm thick boards. Fire & Sound classification Steel pipes  $\leq \emptyset$ 22mm without pipe insulation in maximum aperture 150x150mm EI 30 C/U & E 60 C/U Sound reduction (seal only) 62dB

Client:



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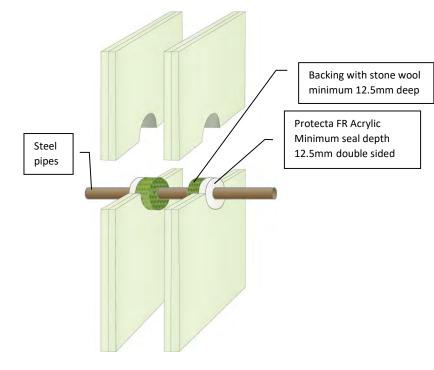
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ECTA Proteous Programmers FTA 13/0879 & 13/0880

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- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 5. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 6. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 7. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or
- 8. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of steel pipes in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards. Fire & Sound classification

Steel pipes  $\leq \emptyset 30$ mm without pipe insulation in maximum aperture 300x300mm

EI 90 C/C & E 90 C/C

Sound reduction (seal only)

62dB



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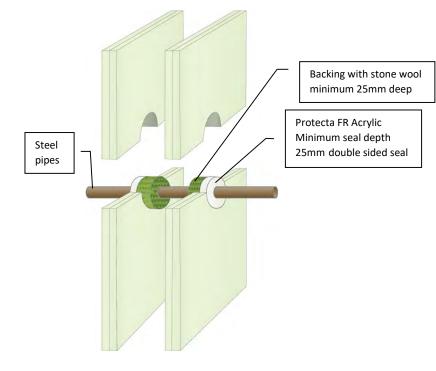
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- As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
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- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush
- 8. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Client:

Products

Protecta FR Acrylic
Stone wool

Application

Fire stopping of steel pipes in flexible walls

Construction

Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

# Fire & Sound classification

Steel pipes Ø22 - Ø30mm without pipe insulation in maximum aperture 300x300mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB



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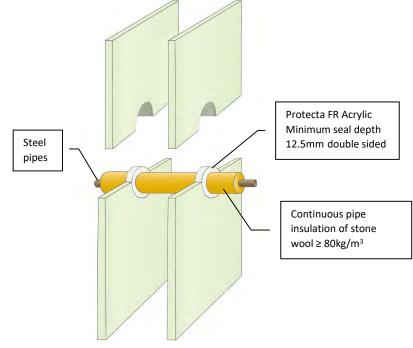
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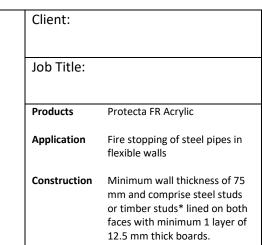
ETA 13/0879 & 13/0880

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- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





# Fire & Sound classification

Steel pipes  $\leq$  Ø324mm with 20-30mm thick pipe insulation in maximum aperture 150x150mm or Ø404mm

EI 45 C/U & E 60 C/U

Sound reduction (seal only)

62dB



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Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

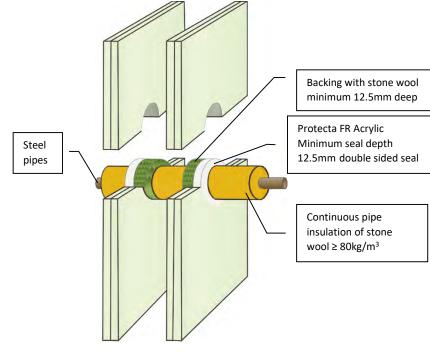
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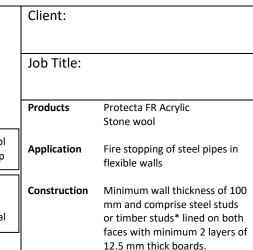


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- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





#### Fire & Sound classification

Steel pipes  $\leq \emptyset 324$ mm with 20-80mm thick pipe insulation in maximum aperture 300x300mm or Ø505mm

EI 90 C/U & E 120 C/U

Sound reduction (seal only)

62dB



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Tel: +44 (0) 148 4421036

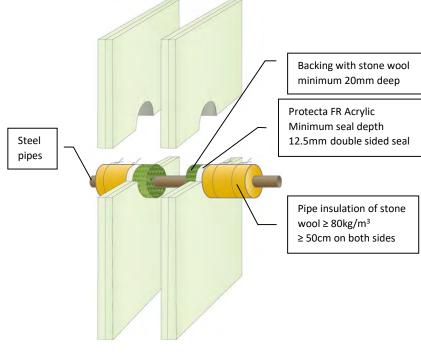
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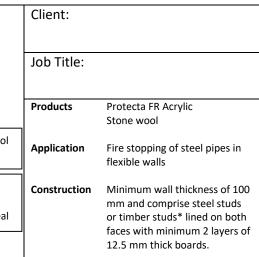


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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polvseam.com be found on www.protecta.eu

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- 3. As Protecta® FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 6. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- 8. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





# Fire & Sound classification

Steel pipes  $\leq \emptyset40$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm EI 120 C/U & E 120 C/U

Steel pipes ≤  $\emptyset$ 219mm with ≥ 30mm thick pipe insulation in maximum aperture 300x300mm EI 90 C/U & E 120 C/U

Sound reduction (seal only) 62dB



Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

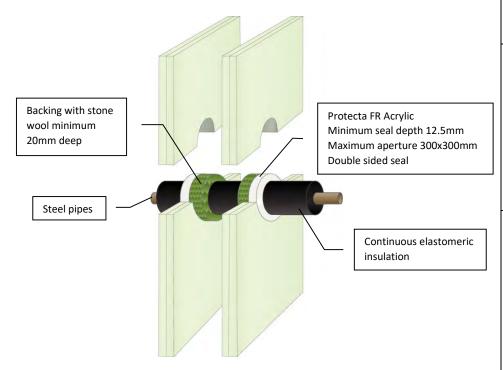
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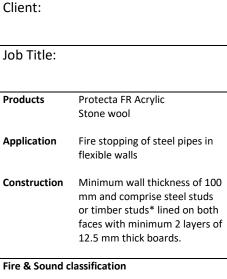


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- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





Steel pipes  $\leq \emptyset 40$ mm with 13 - 19mm thick pipe insulation

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB



Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

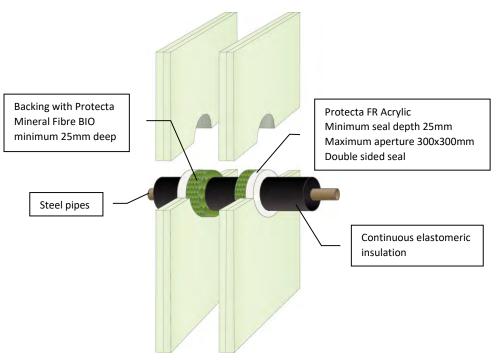
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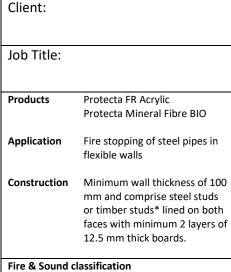


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- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





Steel pipes  $\leq \emptyset 165$ mm with 13 - 19mm thick pipe insulation

EI 60 C/C & E 120 C/C

Sound reduction (seal only)

62dB



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Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

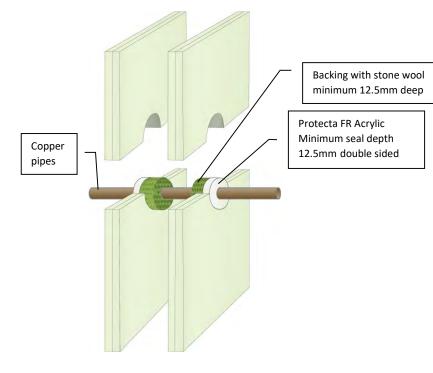
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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic Stone wool

Application Fire stopping of copper pipes in flexible walls

Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

#### Fire & Sound classification

Copper pipes  $\leq$  Ø6mm without pipe insulation in maximum aperture 300x300mm

EI 60 C/C & E 90 C/C

Copper pipes ≤ Ø22mm without pipe insulation in maximum aperture 300x300mm

EI 30 C/C & E 90 C/C

Sound reduction (seal only)

624B



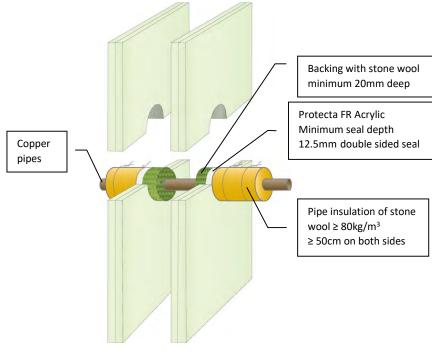
Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

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Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of copper pipes in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

#### Fire & Sound classification

Copper pipes  $\leq \emptyset 54$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm

EI 120 C/U & E 120 C/U

Sound reduction (seal only)

62dB



Huddersfield, West Yorkshire, HD1 6SB

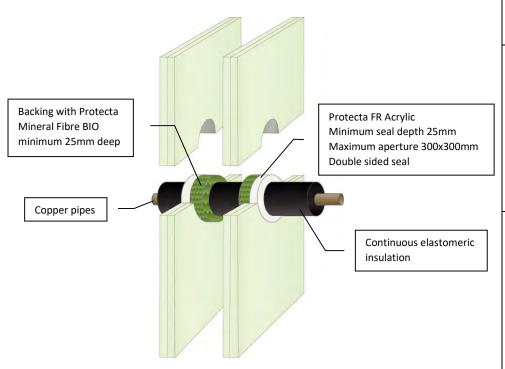
Tel: +44 (0) 148 4421036

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta FR Acrylic Protecta Mineral Fibre BIO Application Fire stopping of copper pipes in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards. Fire & Sound classification

Copper pipes  $\leq \emptyset12$ mm with 9mm thick pipe EI 120 C/C & E 120 C/C insulation

Copper pipes  $\leq \emptyset 54$ mm with 9 – 13mm thick pipe insulation EI 60 C/C & E 120 C/C

Copper pipes  $\leq \emptyset 54$ mm with 14 - 25mm thick pipe insulation EI 60 C/C & E 60 C/C

Sound reduction (seal only)

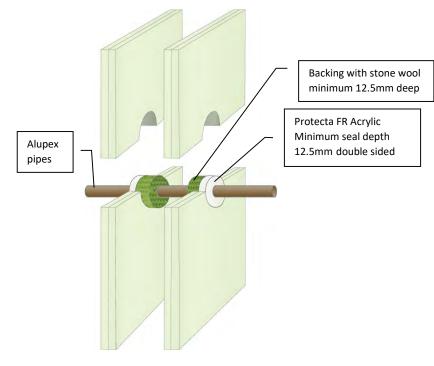


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Email: post.uk@polyseam.com

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- 8. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of alupex pipes in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards. Fire & Sound classification

Alupex pipes ≤ Ø20mm without pipe insulation in maximum aperture 300x300mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB



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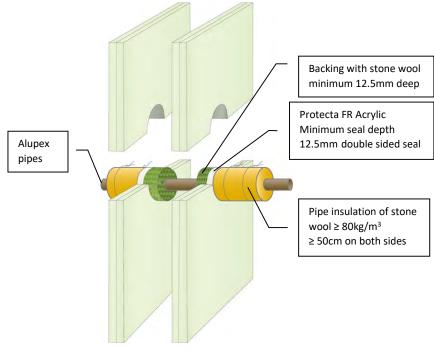
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- 8. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Client: Job Title: **Products** Protecta FR Acrylic Stone wool Application Fire stopping of alupex pipes in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

#### Fire & Sound classification

Alupex pipes  $\leq \emptyset75$ mm with  $\geq 20$ mm thick pipe insulation in maximum aperture 300x300mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

62dB



Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

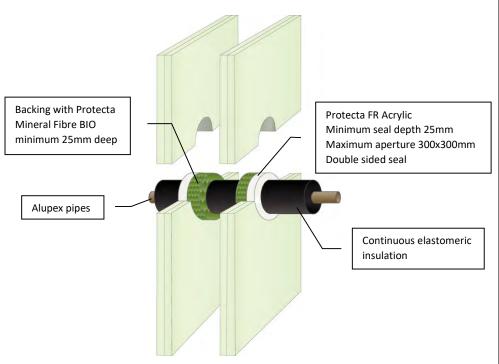
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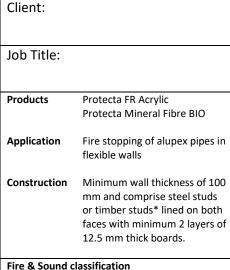


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Alupex pipes ≤ Ø16mm with 9mm thick pipe EI 120 C/C & E 120 C/C insulation

Alupex pipes  $\leq \emptyset75$ mm with 9 – 25mm thick pipe insulation EI 60 C/C & E 60 C/C

Sound reduction (seal only) 62dB



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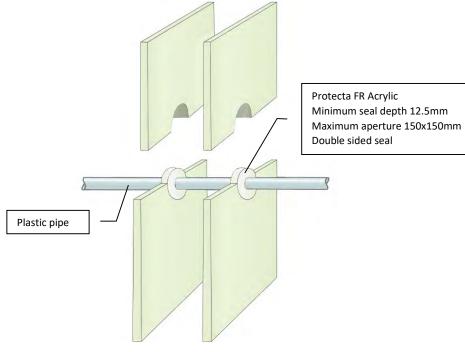
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Signed and approved:

Client:

Job Title:

Products Protecta FR Acrylic

Application Fire stopping of plastic pipes in flexible walls

Construction Minimum wall thickness of 75 mm and comprise steel studs or timber studs\* lined on both faces with minimum 1 layer of

#### Fire & Sound classification

PE, ABS & SAN+PVC pipes  $\leq$  Ø32mm with wall thickness 2.0 – 3.0mm

12.5 mm thick boards.

EI 30 U/C & E 30 U/C

PP pipes  $\leq$  Ø32mm with wall thickness 2.3 – 4.4mm EI 30 U/C & E 30 U/C

PVC-U & PVC-C pipe Ø6mm with wall thickness 1.0mm EI 45 U/C & E 60 U/C

Sound reduction (seal only)

62dB

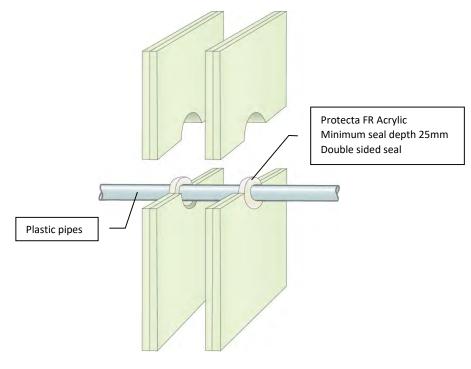


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Scale: Drawn by: K.B

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   Finish the bead with a moist spatula, pallet knife or brush.
- Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Application
Fire stopping of plastic pipes in flexible walls
Construction
Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

#### Fire & Sound classification

PVC-U & PVC-C pipes  $\leq \emptyset 32$ mm with wall thickness 1.0-2.4mm in maximum aperture pipe  $\emptyset + 20$ mm EI 120 U/C & E 120 U/C PVC-U & PVC-C pipes  $\leq \emptyset 32$ mm with wall thickness 1.0-2.4mm in maximum aperture pipe  $\emptyset + 60$ mm EI 90 U/C & E 120 U/C PE, ABS & SAN+PVC pipe  $\emptyset 20$ mm with wall thickness 2.0mm in maximum aperture pipe  $\emptyset + 60$ mm EI 120 U/C & E 120 U/C PP pipe  $\emptyset 20$ mm with wall thickness 2.2mm in maximum aperture pipe  $\emptyset + 60$ mm EI 120 U/C & E 120 U/C PP pipe  $\emptyset 20$ mm with wall thickness 2.2mm in maximum aperture pipe  $\emptyset + 60$ mm

PP pipes ≤ Ø32mm with wall thickness 2.0-

12.5 mm thick boards.

4.4mm in maximum aperture pipe Ø + 60mm

EI 60 U/C & E 60 U/C

Sound reduction (seal only)

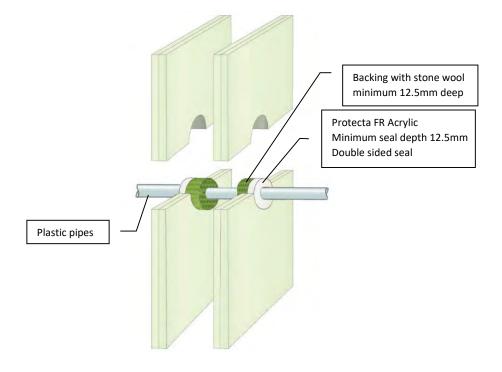
()) Protecta:

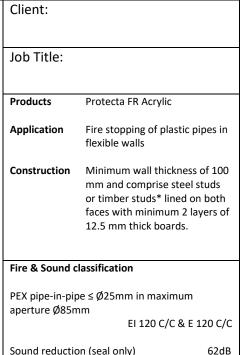
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Email: post.uk@polyseam.com

| Sheet size: | Drawn date & no: |
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| A4          | 8/4/18           |
| NTS         | KB               |

- 1. Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.







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For all technical details on the products specified please refer to the technical data sheets that can | Email: post.uk@polvseam.com be found on www.protecta.eu

Signed and approved:

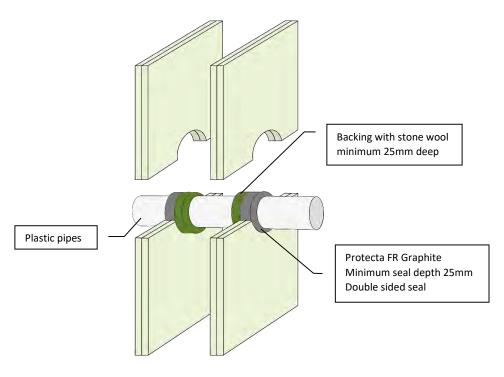


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Tel: +44 (0) 148 4421036

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| A4          | 23/4/15          |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- 4. Apply the sealant generously avoiding air bubbles. Finish the bead with a moist spatula or pallet knife. Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.





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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |                                   |
|--------------|-----------------------------------|
|              |                                   |
| Job Title:   |                                   |
|              |                                   |
|              |                                   |
| Products     | Protecta FR Graphite              |
|              | Stone wool                        |
| Application  | Fire stopping of plastic pipes in |
|              | insulated flexible walls          |
| Construction | Minimum wall thickness of 100     |
|              | mm and comprise steel studs       |
|              | or timber studs* lined on both    |
|              | faces with minimum 2 layers of    |
|              | 12.5 mm thick boards              |

### Fire & Sound classification

PVC-U and PVC-C pipe  $\leq$  110 mm diameter with wall thickness 1.9-6.6mm in seal widths between 10 and 30mm EI 120 U/C

PE, ABS and SAN+PVC pipe ≤ 40 mm diameter with wall thickness 2.4-3.7mm in seal widths between 10 and 30mm EI 120 U/C

PE, ABS and SAN+PVC pipe ≤ 110 mm diameter with wall thickness 2.4-4.2mm in seal widths between 10 and 30mm EI 60 U/C

PE, ABS and SAN+PVC pipe ≤ 110 mm diameter with wall thickness 4.3-10.0mm in seal widths between 10 and 30mm EI 90 U/C & E 120 U/C

Sound reduction (seal only)

Rw 53dB

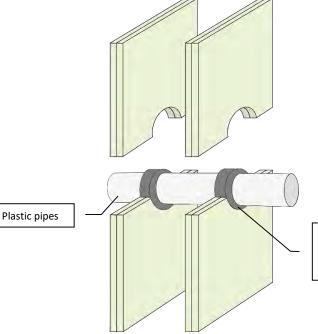


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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Graphite to the required depth.
- 4. Apply the sealant generously avoiding air bubbles. Finish the bead with a moist spatula or pallet knife. Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.



Protecta FR Graphite Minimum seal depth 25mm Double sided seal

Large of Taylors of Ta

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

**Products** Protecta FR Graphite

Stone wool

**Application** Fire stopping of plastic pipes in

flexible walls

**Construction** Minimum wall thickness of 100

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards

### Fire & Sound classification

PVC-U and PVC-C pipe  $\leq$  160 mm diameter with wall thickness 3.2-9.5mm in seal widths between 10 and 30mm EI 30 U/C

PVC-U and PVC-C pipe ≤ 160 mm diameter with wall thickness 9.5mm in seal widths between 10 and 30mm EI 90 U/C

PP pipe  $\leq$  110 mm diameter with wall thickness 1.8-6.3mm in seal widths between 10 and 30mm EI 60 U/C

Sound reduction (seal only)

Rw 53dB

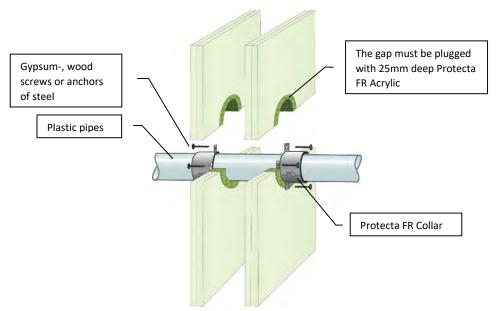


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- For sealing plastic pipes, a pipe collar is installed on both sides of the wall.
- Before fitting the pipe collar ensure that the gaps between the pipe and the separating element are sealed.
- Place a pipe collar around the service penetration (pipe) and ensure that the fixing lugs are positioned tightly to the surface of the wall so that the anchors/fixings can be inserted fully.
- Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the wall and the pipe collar.
- 5. Attach the pipe collar with steel screws, anchors or fixings that are suitable for the substrate that the pipe collar will be fitted to. Use ≥ Ø4 mm gypsum-, wood screws or anchors with a length suitable for the number of boards that form the wall.
- 6. On site where the penetration size is greater than the pipe diameter and/or the pipe is in an angle an oversized collar can be used. Protecta® FR Collars are tested 'oversize', i.e. the internal diameter of the collar can be larger than the pipe.



| Services                      | Minimum Collar<br>Height | Classification                             |
|-------------------------------|--------------------------|--|
| ≤ Ø50mm PVC-U & PVC-C         | 30mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø110mm PVC-U & PVC-C        | 30mm                     | EI 60 C/C, EI 60 U/C                       |
| ≤ Ø110mm PVC-U & PVC-C        | 50mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø160mm PVC-U & PVC-C        | 60mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| Ø315x9.2mm PVC-U & PVC-C      | 75mm                     | EI 60 C/C                                  |
| ≤ Ø50mm PE, ABS & SAN+PVC     | 30mm                     | EI 60 C/C, EI 60 U/C, EI 45 C/U, EI 45 U/U |
| ≤ Ø90mm PE, ABS & SAN+PVC     | 50mm                     | EI 60 C/C, EI 60 U/C, EI 45 C/U, EI 45 U/U |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 30mm                     | EI 60 C/C, EI 60 U/C                       |
| ≤ Ø110mm PE, ABS & SAN+PVC    | 50mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø140mm PE, ABS & SAN+PVC    | 60mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø160mm PE, ABS & SAN+PVC    | 60mm                     | EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U |
| Ø200x18.2mm PE, ABS & SAN+PVC | 75mm                     | EI 60 C/C                                  |
| Ø250x22.7mm PE, ABS & SAN+PVC | 75mm                     | EI 60 C/C                                  |
| ≤ Ø50mm PP                    | 30mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø110mm PP                   | 30mm                     | EI 60 C/C, EI 60 U/C                       |
| ≤ Ø110mm PP                   | 50mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |
| ≤ Ø160mm PP                   | 60mm                     | EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U |



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Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta FR Collar   |
|              | Protecta FR Acrylic  |
| Application  | Fire stopping of plastic pipes in<br>flexible walls with gap widths<br>of minimum 8mm  |
| Construction | Minimum wall thickness of 100 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards |

### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

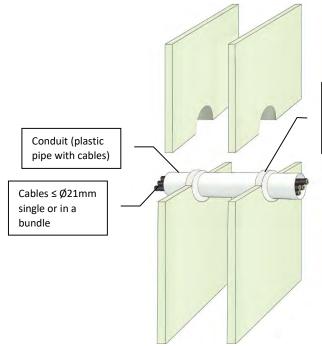
58dB



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| NTS         | K.B              |

- Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with a PVA primer is recommended.
- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water, or Protecta® FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- Fill the gap or joint with Protecta® FR Acrylic to the required depth.
- Apply the sealant generously to prevent air bubbles.
   Finish the bead with a moist spatula, pallet knife or brush.
- 7. Protecta® FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



Protecta FR Acrylic Minimum seal depth 12.5mm Maximum aperture 150x150mm Double sided seal



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Signed and approved:

| Client:      |   |
|--------------|---|
|              |   |
| Job Title:   |   |
|              |   |
| Products     | Protecta FR Acrylic   |
| Application  | Fire stopping of conduits in flexible walls   |
| Construction | Minimum wall thickness of 75 mm and comprise steel studs or timber studs* lined on both faces with minimum 1 layer of 12.5 mm thick boards. |

### Fire & Sound classification

PE, ABS & SAN+PVC conduits/pipes ≤ Ø32mm with wall thickness 2.0 – 3.0mm

EI 30 U/C & E 45 U/C

PP conduits/pipes  $\leq$  Ø32mm with wall thickness 2.3 – 4.4mm EI 30 U/C & E 45 U/C

PVC-U & PVC-C conduits/pipes ≤ Ø32mm with wall thickness 1.0 – 1.8mm

EI 45 U/C & E 60 U/C

Sound reduction (seal only)

62dE



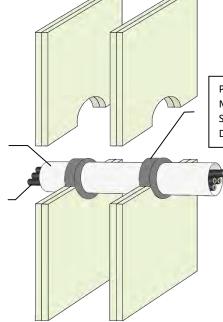
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| Α4          | 8/4/18           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- 1. Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 3. Fill the gap or joint with Protecta® FR Graphite to the required depth.
- 4. Apply the sealant generously avoiding air bubbles. Finish the bead with a moist spatula or pallet knife. Avoid excessive tooling/smoothing as this may make the seal surface wet and soft.
- 5. Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints.

Conduit (plastic pipe with cables)

Cables ≤ Ø20mm single or in a bundle



Protecta FR Graphite Minimum seal depth 25mm Seal widths between 10 and 30mm Double sided seal

**Products** Protecta FR Graphite **Application** Fire stopping of conduits in flexible walls Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards. Fire & Sound classification

Client:

Job Title:

PE, ABS & SAN+PVC conduits/pipes ≤ Ø110mm with wall thickness 2.4 - 10.0mm EI 60 U/C

PP conduits/pipes ≤ Ø110mm with wall EI 90 U/C thickness 2.7 - 6.6mm

PVC-U & PVC-C conduits/pipes ≤ Ø110mm with wall thickness 1.9 - 6.6mm EI 90 U/C

Sound reduction (seal only) Rw 53dB



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ETA 18/0626

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

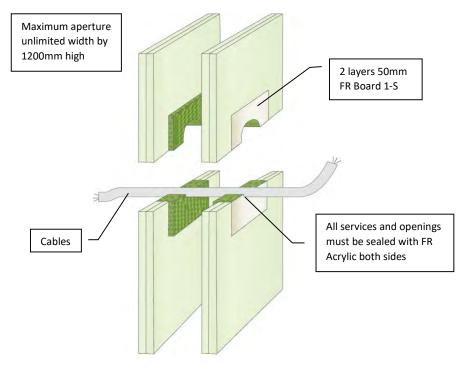
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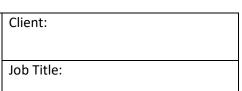
## Appendix IV

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Service penetration solutions in larger apertures

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





**Products** Protecta FR Board Protecta FR Acrylic

Application Fire stopping of cables in

flexible walls

Minimum wall thickness of 100 Construction

> mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

### Fire & Sound classification

Cables ≤ Ø21mm

EI 60 & E 120

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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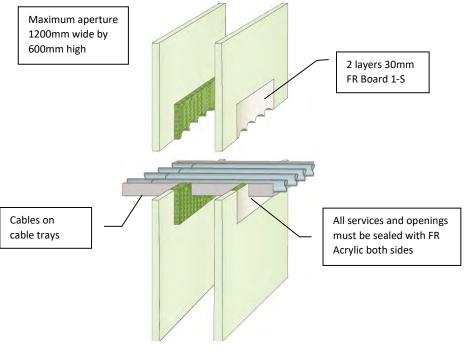
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| NTS         | K.B              |

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





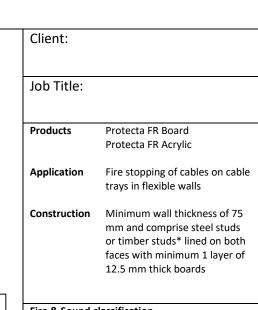
An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



### Fire & Sound classification

Cables ≤ Ø21mm single or bundled on trays EI 45 & E 45

Cables ≤ Ø80mm single or bundled on trays EI 30 & E 45

Sound reduction (seal only)

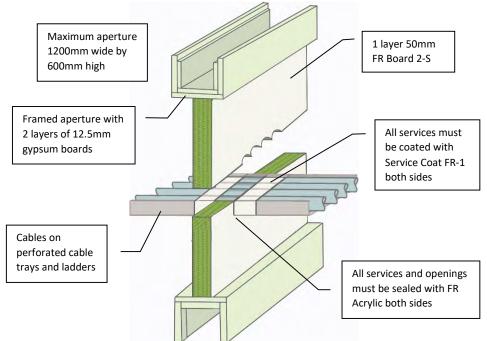
52 dB

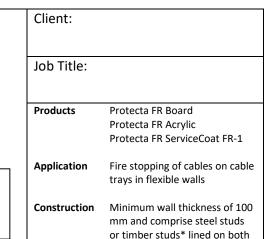


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| A4          | 26/7/17          |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- All cables and cable trays must be coated 150mm each side with 300μ WFT Protecta Service Coat FR-1.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





### Fire & Sound classification

Cables ≤ Ø80mm single or bundled on perforated cable trays and ladders

EI 60 & E 60

faces with minimum 2 layers of

12.5 mm thick boards

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

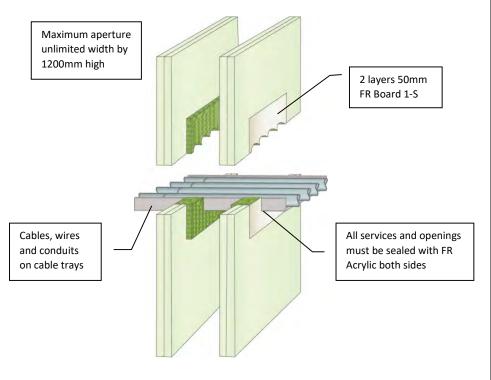
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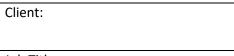


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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

**Products** Protecta FR Board Protecta FR Acrylic

Application Fire stopping of cables, wires

and conduits on cable trays in

flexible walls

Construction Minimum wall thickness of 100

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

### Fire & Sound classification

Cables ≤ Ø80mm single or bundled, wires 185mm<sup>2</sup> and steel or PVC conduits ≤ Ø16mm on

EI 60 & E 60

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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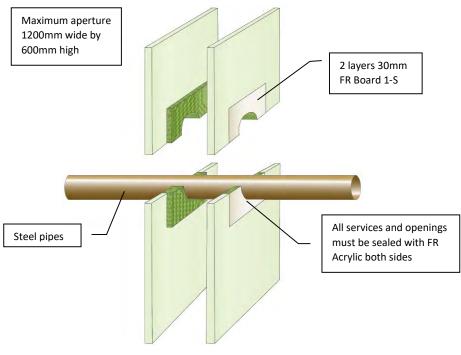
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



Minimum separations and limitations

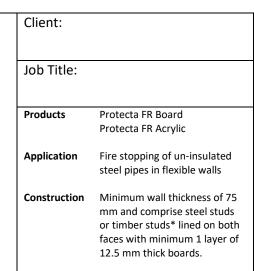
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### Fire & Sound classification

Steel pipes ≤ Ø22mm

EI 30 C/U & E 45 C/U

Sound reduction (seal only)

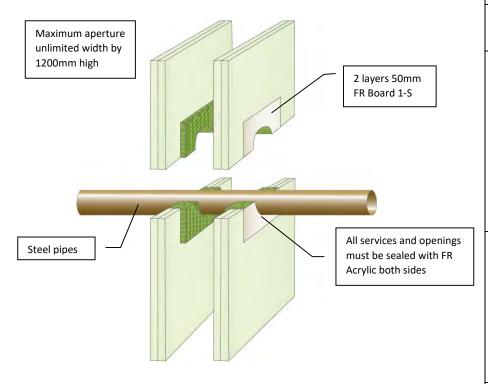
52 dB



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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

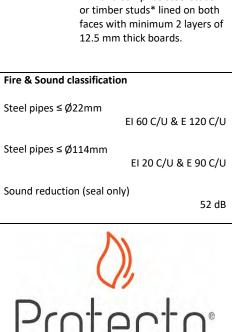
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Protecta FR Board

Protecta FR Acrylic

Fire stopping of un-insulated

Minimum wall thickness of 100

mm and comprise steel studs

steel pipes in flexible walls

Client:

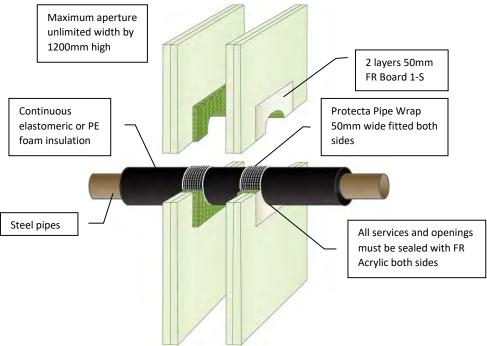
Job Title:

**Products** 

Application

Construction

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Protecta FR Board
Protecta FR Acrylic
Protecta FR Pipe Wrap 25m
Fire stopping of insulated steel
pipes in flexible walls
Construction
Minimum wall thickness of 100
mm and comprise steel studs
or timber studs\* lined on both

### Fire & Sound classification

Steel pipes ≤ Ø40mm with 13mm continuous foam insulation and 2 layers of pipe wrap

EI 120 U/U & E 120 U/U

12.5 mm thick boards.

faces with minimum 2 layers of

Steel pipes  $\leq \emptyset$ 165mm with 13 - 32mm continuous foam insulation and 2 layers of pipe wrap EI 60 U/U & E 120 U/U

Steel pipes  $\leq$  Ø324mm with 32 - 50mm continuous foam insulation and 3 layers of pipe wrap EI 90 C/U & E 90 C/U

Sound reduction (seal only)

52 dB

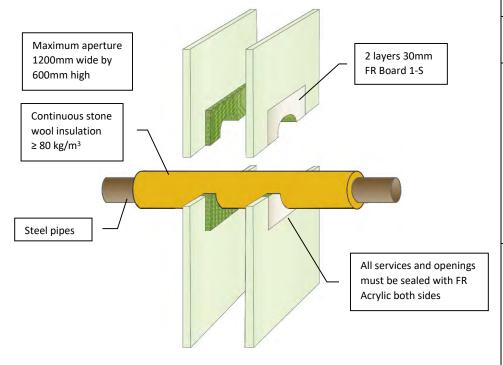


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

**Products** Protecta FR Board

Protecta FR Acrylic

**Application** Fire stopping of insulated steel

pipes in flexible walls

**Construction** Minimum wall thickness of 75

mm and comprise steel studs or timber studs\* lined on both faces with minimum 1 layer of

12.5 mm thick boards.

### Fire & Sound classification

Steel pipes ≤ Ø324mm with 20-30mm continuous stone wool insulation

EI 45 C/U & E 45 C/U

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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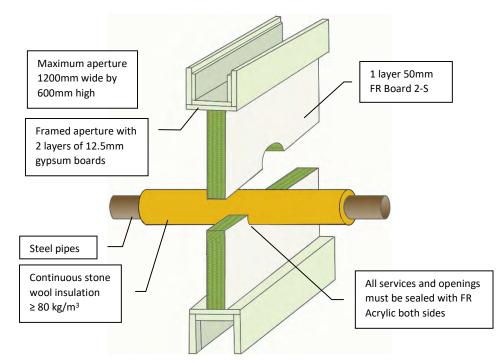


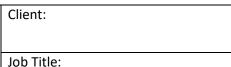
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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





**Products** Protecta FR Board Protecta FR Acrylic

Application Fire stopping of insulated steel

pipes in flexible walls

Minimum wall thickness of 100 Construction

> mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

### Fire & Sound classification

Steel pipes  $\leq \emptyset$ 324mm with 20-30mm continuous stone wool insulation

EI 60 C/U & E 90 C/U

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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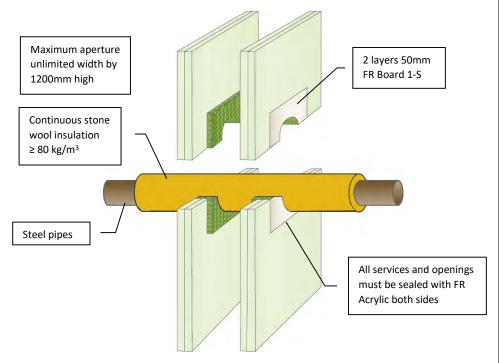
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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





**Products** Protecta FR Board Protecta FR Acrylic

Application Fire stopping of insulated steel

pipes in flexible walls

Minimum wall thickness of 100 Construction

> mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

### Fire & Sound classification

Steel pipes  $\leq \emptyset$ 324mm with 20-80mm continuous stone wool insulation

EI 120 C/U & E 120 C/U

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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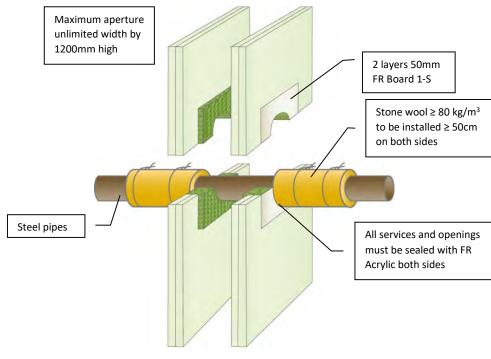
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:

# Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated steel pipes in flexible walls Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

### Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with  $\geq 20$ mm stone wool insulation

12.5 mm thick boards.

EI 120 C/U & E 120 C/U

Steel pipes  $\leq \emptyset 219$ mm with  $\geq 30$ mm stone wool insulation

EI 90 C/U & E 120 C/U

Sound reduction (seal only)

52 dB

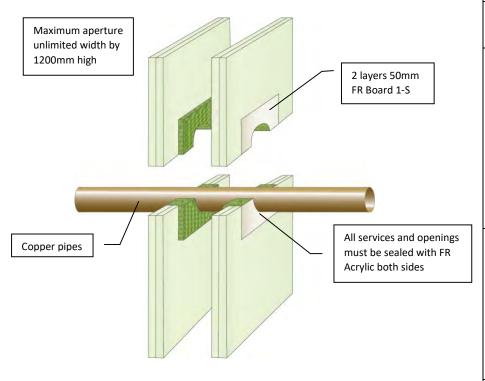


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- 2. Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 5. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



Client:

Job Title:

**Products** Protecta FR Board Protecta FR Acrylic

Application Fire stopping of un-insulated

copper pipes in flexible walls

Minimum wall thickness of 100 Construction

> mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

### Fire & Sound classification

Copper pipes ≤ Ø6mm

EI 60 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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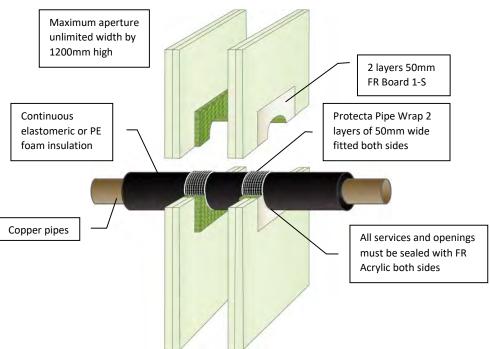
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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Protecta FR Board
Protecta FR Acrylic
Protecta FR Pipe Wrap 25m
Fire stopping of insulated
copper pipes in flexible walls
Minimum wall thickness of 100
mm and comprise steel studs
or timber studs\* lined on both

### Fire & Sound classification

Copper pipes ≤ Ø12mm with 9mm continuous foam insulation EI 120 C/C & E 120 C/C

Copper pipes ≤ Ø54mm with 9 - 13mm continuous foam insulation

EI 90 C/C & E 120 C/C

faces with minimum 2 layers of

12.5 mm thick boards.

Copper pipes ≤ Ø54mm with 14 - 25mm continuous foam insulation

EI 60 C/C & E 120 C/C

Sound reduction (seal only)

52 dB



Huddersfield, West Yorkshire, HD1 6SB

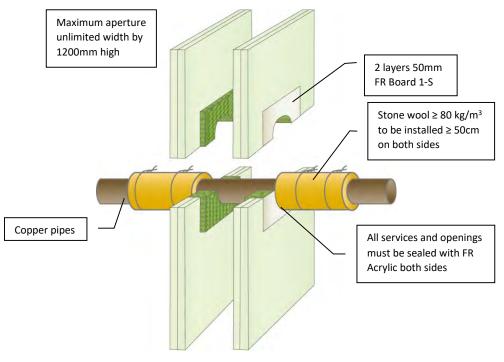
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 5/3/19

Scale: Drawn by: K.B

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



# Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated copper pipes in flexible walls Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

### Fire & Sound classification

Copper pipes  $\leq \emptyset$ 54mm with  $\geq$  20mm stone wool insulation

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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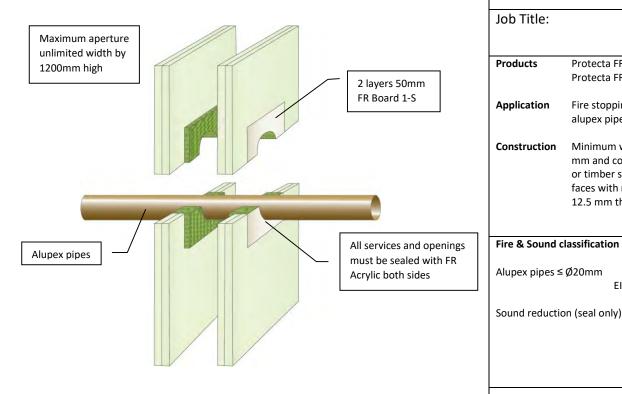
Signed and approved:



Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

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| NTS         | K.B              |

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 5. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



Protecta FR Board

Protecta FR Acrylic

Fire stopping of un-insulated

alupex pipes in flexible walls

Minimum wall thickness of 100

mm and comprise steel studs

or timber studs\* lined on both

faces with minimum 2 layers of

EI 120 C/C & E 120 C/C

52 dB

12.5 mm thick boards.

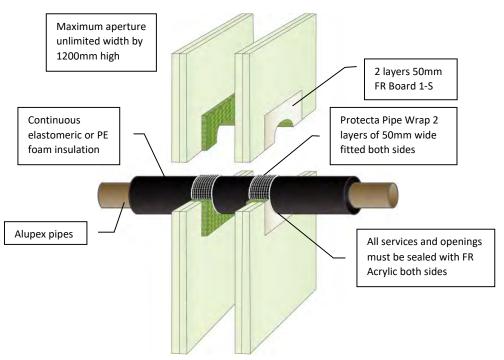
Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Client:

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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

**Products** Protecta FR Board

Protecta FR Acrylic

Protecta FR Pipe Wrap 25m

**Application** 

Fire stopping of insulated

alupex pipes in flexible walls

Minimum wall thickness of 100 Construction

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

### Fire & Sound classification

Alupex pipes  $\leq \emptyset75$ mm with 9 - 25mm continuous foam insulation

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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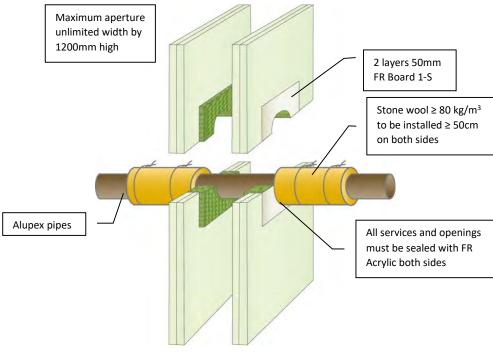
Signed and approved:



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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

# Client: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated alupex pipes in flexible walls Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

### Fire & Sound classification

Alupex pipes  $\leq \emptyset 16$ mm with  $\geq 20$ mm stone wool insulation

12.5 mm thick boards.

EI 120 C/C & E 120 C/C

Alupex pipes  $\leq \emptyset75$ mm with  $\geq 20$ mm stone wool insulation

EI 60 C/C & E 60 C/C

Sound reduction (seal only)

52 dB

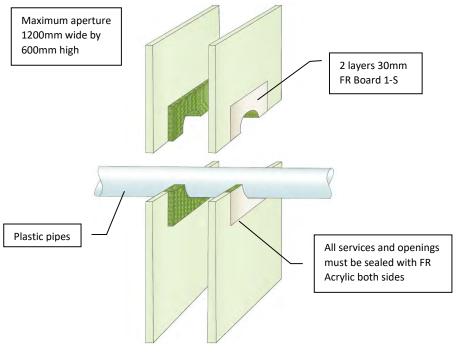


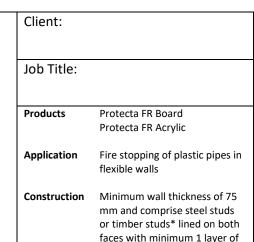
Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





### Fire & Sound classification

PVC-U and PVC-C pipes ≤ Ø32mm with wall thickness 1.0-1.8mm

12.5 mm thick boards

EI 45 U/C & E 45 U/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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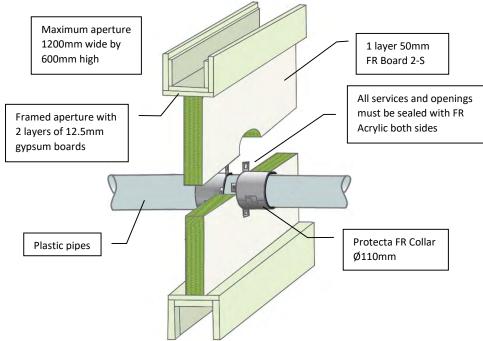
Signed and approved:



Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Plastic pipes must be secured with Protecta® FR Collars Ø110mm fixed with penetrating threaded rod and nuts on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



## Client: Job Title: **Products** Protecta FR Board Protecta FR Acrylic Protecta FR Collar **Application** Fire stopping of plastic pipes in

flexible walls

Construction Minimum wall thickness of 100

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

### Fire & Sound classification

PVC-U and PVC-C pipes ≤ Ø110mm

EI 60 U/C & E 90 U/C

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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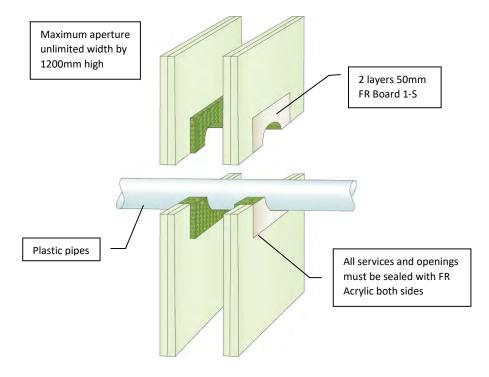
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:



### Fire & Sound classification

PEX pipe-in-pipe ≤ Ø25mm

EI 90 C/C & E 90 C/C

PVC-U and PVC-C pipes ≤ Ø32mm with wall thickness 1.0-2.4mm EI 60 U/C & E 90 U/C

PE, ABS and SAN+PVC pipes  $\leq$  Ø32mm with wall thickness 2.0-3.0mm EI 60 U/C & E 60 U/C

PP pipes  $\leq$  Ø32mm with wall thickness 1.8-2.2mm EI 60 U/C & E 120 U/C

Sound reduction (seal only)

52 dB

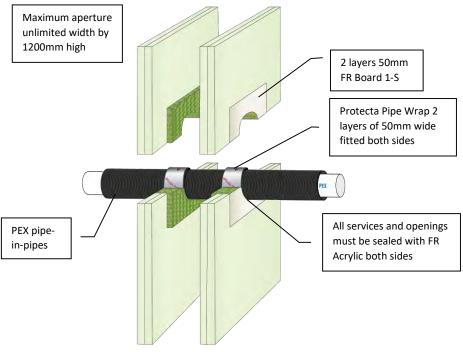


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:

|   | Client:      |   |
|---|--------------|---|
|   | Job Title:   |   |
|   | Products     | Protecta FR Board<br>Protecta FR Acrylic<br>Protecta FR Pipe Wrap   |
| 7 | Application  | Fire stopping of PEX pipe-in-<br>pipes in flexible walls  |
|   | Construction | Minimum wall thickness of 100 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards. |

### Fire & Sound classification

PEX pipe-in-pipes ≤ Ø54mm

EI 120 C/C & E 120 C/C

PEX pipe-in-pipes ≤ Ø25mm in bundles ≤ Ø50mm

EI 90 C/C & E 90 C/C

52 dB

Sound reduction (seal only)

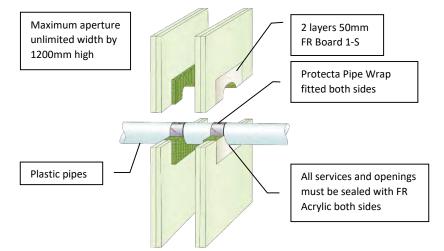
()) Protecta

Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



| Services                    | Pipe Wall Thickness | FR Pipe Wrap            | Classification         |
|-----------------------------|---------------------|-------------------------|------------------------|
| ≤ Ø 40mm PVC-U & PVC-C      | 1.9 – 3.0mm         | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø 40mm PE, ABS & SAN+PVC  | 2.4 – 3.7mm         | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø 40mm PP                 | 1.8 – 5.5mm         | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm PVC-U & PVC-C     | 2.7 – 6.6mm         | 50 x 3.6mm (2 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 110mm PE, ABS & SAN+PVC | 4.2 – 10.0mm        | 50 x 3.6mm (2 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 110mm PP                | 2.7 – 15.1mm        | 50 x 3.6mm (2 layers)   | EI 90 U/U (E 90 U/U)   |
| ≤ Ø 125mm PVC-U & PVC-C     | 3.7 – 7.4mm         | 50 x 5.4mm (3 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 125mm PE, ABS & SAN+PVC | 4.8 – 12.0mm        | 50 x 5.4mm (3 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 125mm PP                | 3.1 – 17.1mm        | 50 x 5.4mm (3 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 160mm PVC-U & PVC-C     | 9.5mm               | 50 x 7.2mm (4 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 160mm PE, ABS & SAN+PVC | 14.6mm              | 50 x 7.2mm (4 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 160mm PP                | 21.9mm              | 50 x 7.2mm (4 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 200mm PVC-U & PVC-C     | 9.0 – 10.2mm        | 50 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |
| ≤ Ø 250mm PVC-U & PVC-C     | 8.5 – 11.0mm        | 50 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |
| ≤ Ø 315mm PVC-U & PVC-C     | 7.7 – 12.1mm        | 50 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |
| ≤ Ø 400mm PVC-U & PVC-C     | 9.8 – 15.3mm        | 50 x 28.8mm (16 layers) | EI 90 C/C (E 90 C/C)   |

Minimum separations and limitations An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
|              |  |
| Job Title:   |  |
|              |  |
| Products     | Protecta FR Board  |
|              | Protecta FR Acrylic  |
|              | Protecta FR Pipe Wrap 25m  |
| Application  | Fire stopping of plastic pipes in flexible walls   |
| Construction | Minimum wall thickness of 100 mm and comprise steel studs or timber studs* lined on both |

### Fire & Sound classification

For fire classifications please see the table on the left.

faces with minimum 2 layers of

12.5 mm thick boards

Sound reduction (seal only)

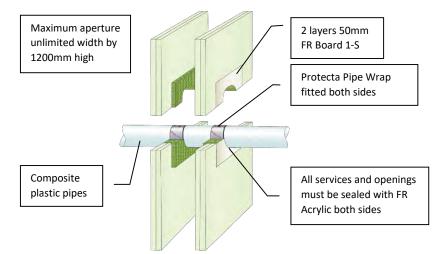
52 dB



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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



| Services                             | FR Pipe Wrap           | Classification         |
|--------------------------------------|------------------------|------------------------|
| Ø 32mm Aquatherm Green SDR9 pipes    | 50 x 1.8mm (1 layer)   | EI 90 C/C (E 120 C/C)  |
| ≤ Ø 110mm Aquatherm Green SDR9 pipes | 50 x 3.6mm (2 layers)  | EI 90 C/C (E 120 C/C)  |
| ≤ Ø 50mm BluePower pipes             | 50 x 3.6mm (2 layers)  | EI 90 U/U (E 90 U/U)   |
| ≤ Ø 110mm BluePower pipes            | 50 x 3.6mm (2 layers)  | EI 90 C/U (E 90 C/U)   |
| ≤ Ø 50mm Geberit Silent-PP pipes     | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Geberit Silent-PP pipes    | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Polo-Kal NG pipes           | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Polo-Kal NG pipes          | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 125mm Polo-Kal NG pipes            | 50 x 7.2mm (4 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 160mm Polo-Kal NG pipes            | 50 x 10.8mm (6 layers) | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Rehau Raupiano Plus pipes   | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Rehau Raupiano Plus pipes  | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 125mm Rehau Raupiano Plus pipes    | 50 x 7.2mm (4 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 160mm Rehau Raupiano Plus pipes    | 50 x 10.8mm (6 layers) | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Wavin SiTech pipes          | 50 x 3.6mm (2 layers)  | EI 90 U/U (E 120 U/U)  |
| ≤ Ø 110mm Wavin SiTech pipes         | 50 x 3.6mm (2 layers)  | EI 60 U/C (E 120 U/C)  |

Minimum separations and limitations An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Job Title.   |  |
| Products     | Protecta FR Board  |
|              | Protecta FR Acrylic  |
|              | Protecta FR Pipe Wrap 25m  |
| Application  | Fire stopping of composite   |
|              | plastic pipes in flexible walls  |
| Construction | Minimum wall thickness of 100 mm and comprise steel studs or timber studs* lined on both |

### Fire & Sound classification

For fire classifications please see the table on the left.

faces with minimum 2 layers of

12.5 mm thick boards

Sound reduction (seal only)

52 dB

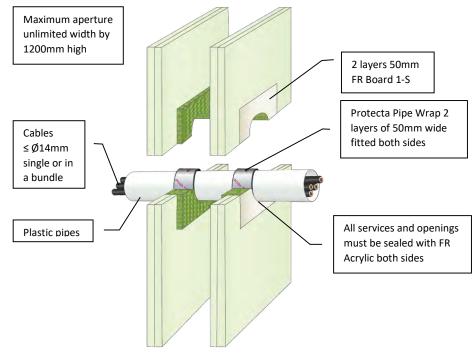


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Email: post.uk@polyseam.com

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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:

Client:

Job Title:

Products

Protecta FR Board
Protecta FR Acrylic
Protecta FR Pipe Wrap
Application
Fire stopping of conduits in
flexible walls

Construction
Minimum wall thickness of 100
mm and comprise steel studs
or timber studs\* lined on both

### Fire & Sound classification

Conduits of PVC-U & PVC-C pipe ≤ Ø110mm with wall thickness 2.7-6.6mm

EI 90 U/C & E 120 U/C

faces with minimum 2 layers of

12.5 mm thick boards.

Conduits of PE, ABS & SAN+PVC pipes ≤ Ø110mm with wall thickness 4.2-10.0mm EI 90 U/C & E 120 U/C

Conduits of PP pipe  $\leq$  Ø110mm with wall thickness 2.7-15.1mm EI 90 U/C & E 120 U/C

Sound reduction (seal only)

52 dB

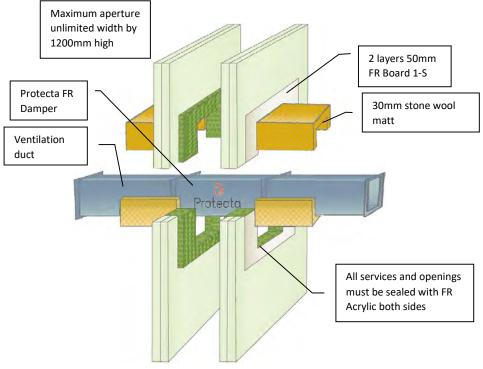


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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the drywall on both sides.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Insulate the ventilation duct towards the fire seal on both sides with 30mm thick stone wool matting to the length given on this page. Insulate on one side only if the duct terminates in the wall.
- 7. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



This product is certified to applicable European (EN) standards and UL-EU Mark service requirements.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

## Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Protecta FR Damper Application Fire stopping of ventilation ducts in flexible walls Construction Minimum wall thickness of 100 mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

### Fire & Sound classification

≤ Ø 400mm damper/duct with ≥ 200mm stone wool matt on both sides EI 120 & E 120 ≤ Ø 1250mm damper/duct with ≥ 500mm stone wool matt on both sides EI 60 & E 90 ≤ 600mm high x 1000mm wide damper/duct with ≥ 500mm stone wool matt on both sides EI 120 & E 120

12.5 mm thick boards

≤ 1200mm high x 1700mm wide damper/duct with ≥ 500mm stone wool matt on both sides

EI 90 & E 90

Sound reduction (seal only)

52 dB

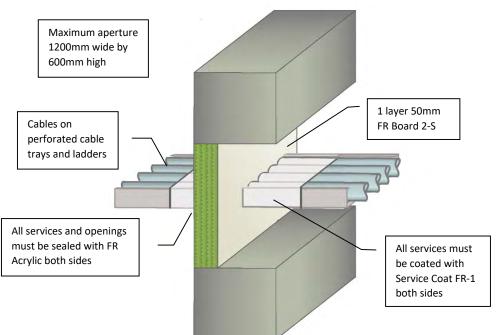


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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. All cables and cable trays must be coated 150mm each side with 300µ WFT Protecta Service Coat FR-1.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

**Products** Protecta FR Board

Protecta FR Acrylic

Protecta FR ServiceCoat FR-1

**Application** Fire stopping of cables on cable

trays in rigid walls

Construction Minimum wall thickness of 100

> mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

### Fire & Sound classification

Cables ≤ Ø80mm single or bundled on perforated cable trays and ladders

EI 60 & E 60

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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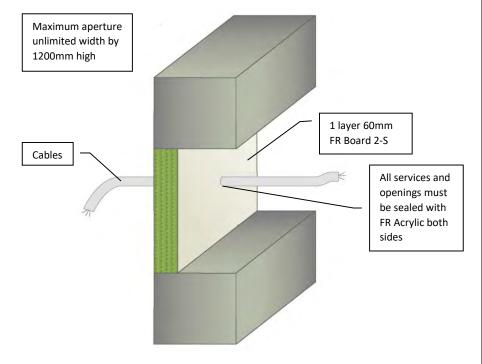
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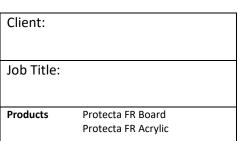


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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





**Application** Fire stopping of cables in rigid walls

Construction Minimum wall thickness of 150

mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Cables ≤ Ø21mm

EI 90 & E 240

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

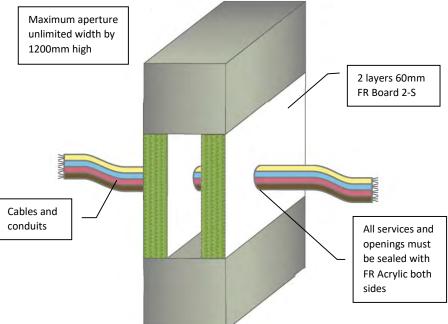
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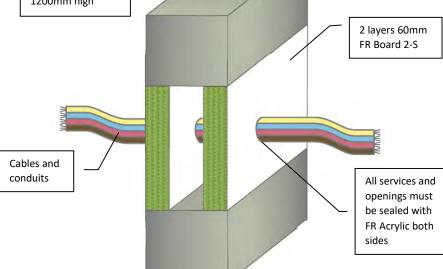


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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Client:

Job Title:

**Products** 

Protecta FR Board Protecta FR Acrylic

Application

Fire stopping of cables and

conduits in rigid walls

Construction

Minimum wall thickness of 150 mm and comprise concrete. aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

### Fire & Sound classification

Cables ≤ Ø21mm, single or in a bundle and PVC conduits ≤ Ø16mm

EI 120 & E 240

Cables  $\leq \emptyset21$ mm and PVC conduits  $\leq \emptyset16$ mm EI 180 & E 240

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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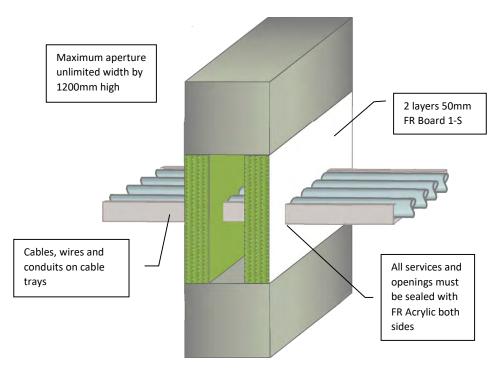
Signed and approved:



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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

Products P

Protecta FR Board Protecta FR Acrylic

Application

Fire stopping of cables, wires

and conduits on cable trays in

rigid walls

Construction

Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

### Fire & Sound classification

Cables  $\leq$  Ø80mm single or bundled, wires 185mm<sup>2</sup> and steel or PVC conduits  $\leq$  Ø16mm on travs

EI 60 & E 60

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:

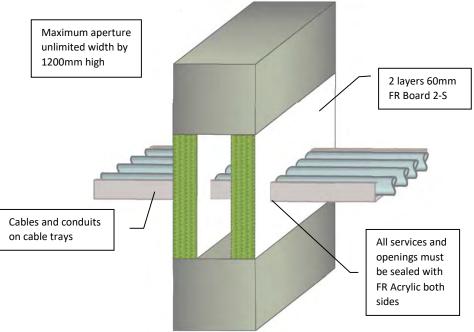


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



## Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

## Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of cables and conduits on cable trays in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete,

### Fire & Sound classification

Cables  $\leq \emptyset21$ mm in tied bundles  $\leq \emptyset100$ mm and PVC conduits  $\leq \emptyset16$ mm on  $\leq 200$  mm ladders or  $\leq 500$  mm non-perforated trays

aerated concrete or masonry,

with a density of  $\geq$  650 kg/m<sup>3</sup>

EI 120 & E 180

Cables ≤ Ø80mm, single, bundled and on trays EI 60 & E 180

Sound reduction (seal only)

52 dB

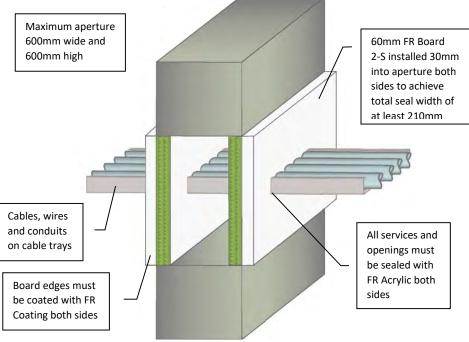


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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

# Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Protecta FR Coating Application Fire stopping of cables, wires and conduits on cable trays in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry,

### Fire & Sound classification

Cables  $\leq \emptyset21$ mm in tied bundles  $\leq \emptyset100$ mm on trays EI 240 & E 240

with a density of  $\geq$  650 kg/m<sup>3</sup>

Cables  $\leq$  Ø21mm, single, bundled and wires  $\leq$  95mm<sup>2</sup> on trays EI 120 & E 240

Cables ≤ Ø80mm, single, bundled and wires ≤ 185mm² on trays EI 60 & E 240

Sound reduction (seal only)

53 dB

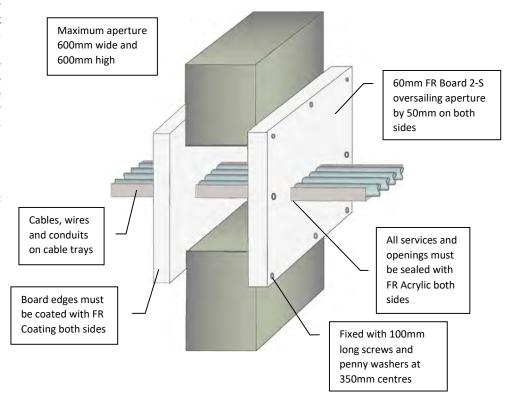


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:

Products

Protecta FR Board
Protecta FR Acrylic
Protecta FR Coating

Application

Fire stopping of cables, wires and conduits on cable trays in rigid walls

Construction

Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Cables  $\leq$  Ø21mm in tied bundles  $\leq$  Ø100mm on trays EI 240 & E 240

Cables ≤ Ø50mm, single, bundled and wires ≤ 185mm² on trays EI 90 & E 240

Cables ≤ Ø80mm, single, bundled and on trays EI 60 & E 240

Sound reduction (seal only)

53 dB



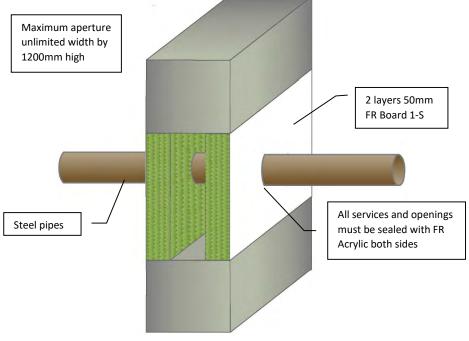
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Email: post.uk@polyseam.com

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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Client: Job Title:

Products Protecta FR Board
Protecta FR Acrylic

**Application** Fire stopping of un-insulated

steel pipes in rigid walls

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Steel pipes ≤ Ø22mm

EI 60 C/U & E 120 C/U

Steel pipes ≤ Ø114mm

EI 20 C/U & E 90 C/U

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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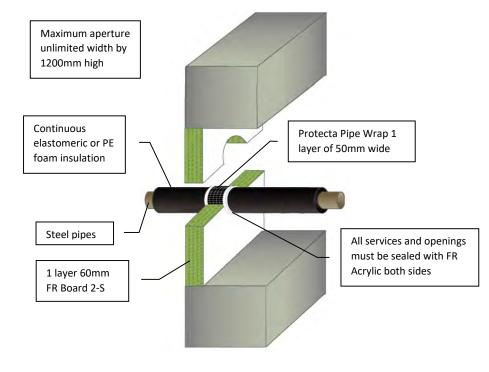
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

Products Protecta FR Board

Protecta FR Acrylic

Protecta FR Pipe Wrap 25m

**Application** Fire stopping of insulated steel

pipes in rigid walls

**Construction** Minimum wall thickness of 150

mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq 650 \text{ kg/m}^3$ 

### Fire & Sound classification

Steel pipes  $\leq \emptyset$ 165mm with 9 - 25mm continuous foam insulation

EI 45 U/C & E 120 U/C

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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Signed and approved:

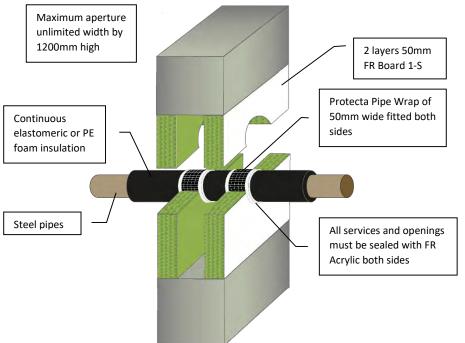


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Protecta FR Board
Protecta FR Acrylic
Protecta FR Pipe Wrap 25m
Fire stopping of insulated steel
pipes in rigid walls
Construction
Minimum wall thickness of 100
mm and comprise concrete.

### Fire & Sound classification

Steel pipes  $\leq$  Ø40mm with 13mm continuous foam insulation and 2 layers of pipe wrap EI 120 U/U & E 120 U/U

aerated concrete or masonry,

with a density of  $\geq$  650 kg/m<sup>3</sup>

Steel pipes  $\leq$  Ø165mm with 13 - 32mm continuous foam insulation and 2 layers of pipe wrap EI 60 U/U & E 120 U/U

Steel pipes  $\leq$  Ø324mm with 32 - 50mm continuous foam insulation and 3 layers of pipe wrap EI 90 C/U & E 90 C/U

Sound reduction (seal only)

52 dE



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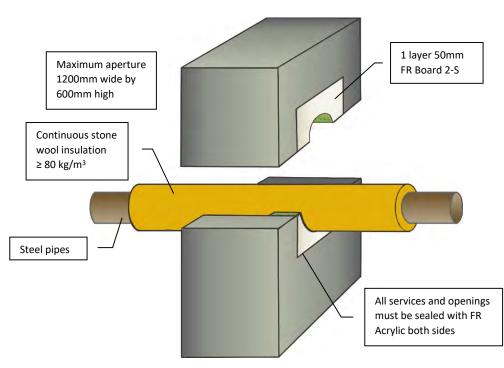
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
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- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Job Title:

**Products** Protecta FR Board

Protecta FR Acrylic

**Application** Fire stopping of insulated steel

pipes in rigid walls

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Steel pipes ≤ Ø324mm with 20-30mm continuous stone wool insulation

EI 60 C/U & E 90 C/U

Sound reduction (seal only)

29 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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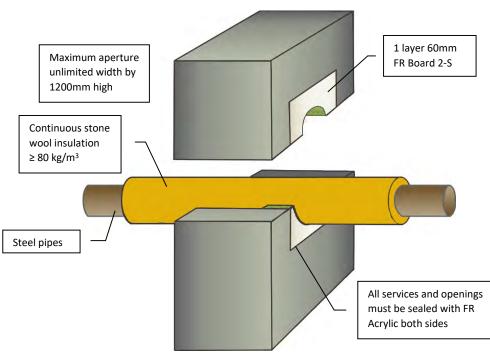
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
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- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

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Signed and approved:

## Client: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated steel pipes in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry,

### Fire & Sound classification

Steel pipes ≤ Ø219mm with 30mm continuous stone wool insulation

EI 60 C/U & E 240 C/U

with a density of  $\geq$  650 kg/m<sup>3</sup>

Steel pipes Ø325mm with 30mm continuous stone wool insulation

EI 90 C/U & E 120 C/U

Sound reduction (seal only)

29 dB

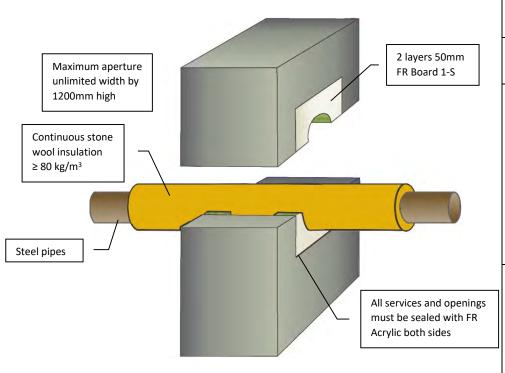


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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 5. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



Client:

Job Title:

**Products** 

Protecta FR Board Protecta FR Acrylic

Application

Fire stopping of insulated steel

pipes in rigid walls

Construction

Minimum wall thickness of 100 mm and comprise concrete. aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

### Fire & Sound classification

Steel pipes  $\leq \emptyset$ 324mm with 20-80mm continuous stone wool insulation

EI 120 C/U & E 120 C/U

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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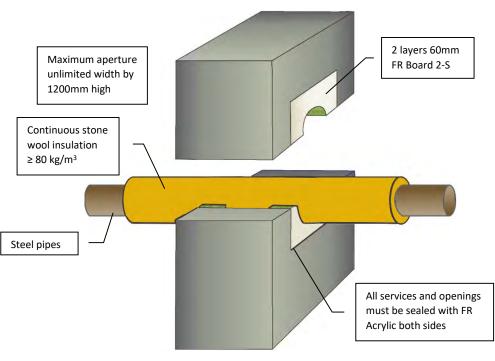
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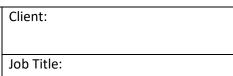


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
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- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





Products Protecta FR Board
Protecta FR Acrylic

**Application** Fire stopping of insulated steel

pipes in rigid walls

**Construction** Minimum wall thickness of 150

mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Steel pipes  $\leq \emptyset 324$ mm with 20-80mm continuous stone wool insulation

EI 180 C/U & E 240 C/U

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

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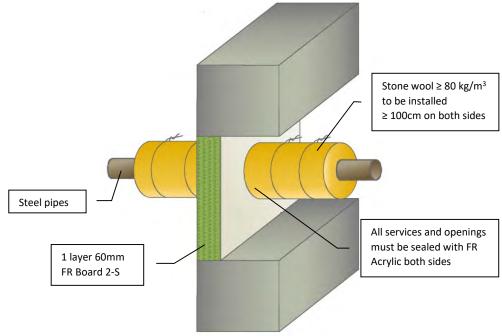
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- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

### Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated steel pipes in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete,

### Fire & Sound classification

Steel pipes ≤  $\emptyset$ 40mm with ≥ 20mm stone wool insulation in maximum aperture 280mm wide and 280mm high EI 240 C/U & E 240 C/U Steel pipes ≤  $\emptyset$ 40mm with ≥ 20mm stone wool insulation in maximum aperture unlimited width by 1200mm high EI 90 C/U & E 240 C/U Steel pipes ≤  $\emptyset$ 219mm with ≥ 30mm stone wool insulation in maximum aperture 280mm wide and 280mm high EI 240 C/U & E 240 C/U Steel pipes ≤  $\emptyset$ 219mm with ≥ 30mm stone wool insulation in maximum aperture unlimited width by 1200mm high EI 90 C/U & E 240 C/U

aerated concrete or masonry, with a density of ≥ 650 kg/m<sup>3</sup>

Sound reduction (seal only)

29 dB

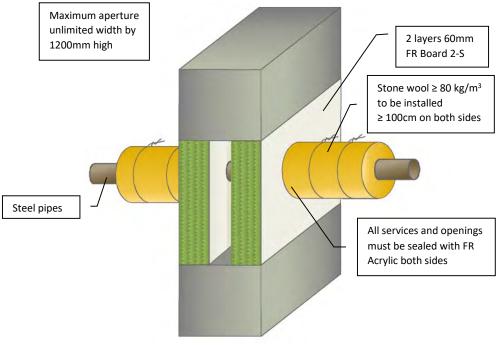


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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



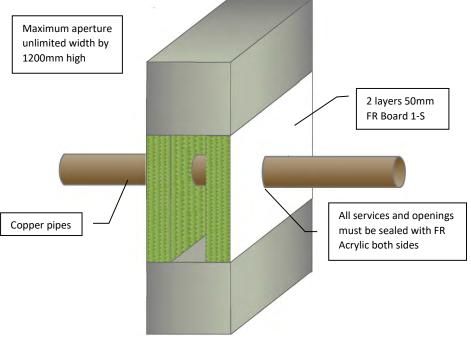
Polyseam Ltd, 15 St Andrews Road,

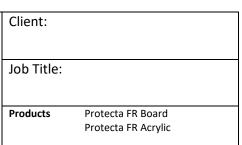
Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

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Scale: Drawn by: K.B

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- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





**Application** Fire stopping of un-insulated copper pipes in rigid walls

**Construction** Minimum wall thickness of 100 mm and comprise concrete.

aerated concrete or masonry, with a density of ≥ 650 kg/m<sup>3</sup>

### Fire & Sound classification

Copper pipes ≤ Ø6mm

EI 60 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

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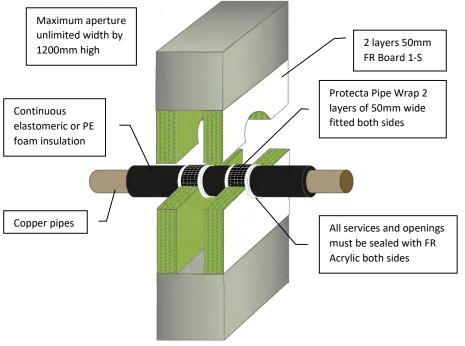
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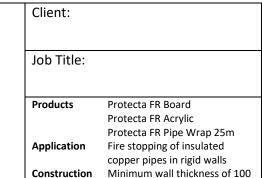


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- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





### Fire & Sound classification

Copper pipes ≤ Ø12mm with 9mm continuous foam insulation EI 120 C/C & E 120 C/C

mm and comprise concrete.

aerated concrete or masonry,

with a density of  $\geq$  650 kg/m<sup>3</sup>

Copper pipes  $\leq \emptyset 54$ mm with 9 - 13mm continuous foam insulation

EI 90 C/C & E 120 C/C

Copper pipes ≤ Ø54mm with 14 - 25mm continuous foam insulation

EI 60 C/C & E 120 C/C

Sound reduction (seal only) 52 dB



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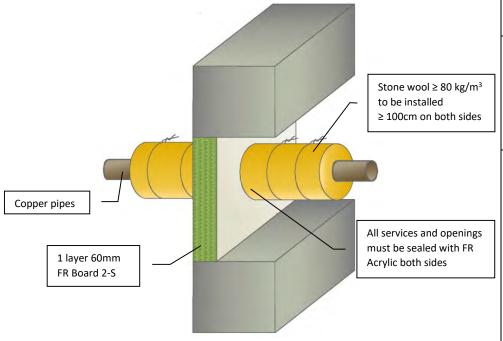


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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

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- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The board can be positioned to either side of the construction or anywhere in between.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

### Client: Job Title: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated copper pipes in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete,

### Fire & Sound classification

Copper pipes ≤ Ø12mm with ≥ 20mm stone wool insulation in maximum aperture 70mm wide and 70mm high EI 240 C/U & E 240 C/U

aerated concrete or masonry, with a density of ≥ 650 kg/m<sup>3</sup>

Copper pipes ≤ Ø54mm with ≥ 20mm stone wool insulation in maximum aperture 115mm wide and 115mm high EI 120 C/U & E 240 C/U

Copper pipes  $\leq$  Ø54mm with  $\geq$  20mm stone wool insulation in maximum aperture unlimited width by 1200mm high EI 90 C/U & E 240 C/U

Sound reduction (seal only)

29 dB

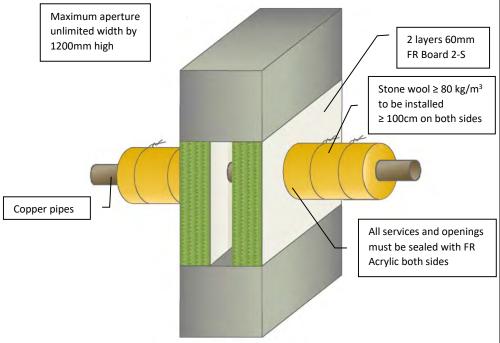


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- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Fire & Sound classification

Copper pipes  $\leq \emptyset$ 54mm with  $\geq$  20mm stone wool insulation

EI 120 C/U & E 240 C/U

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

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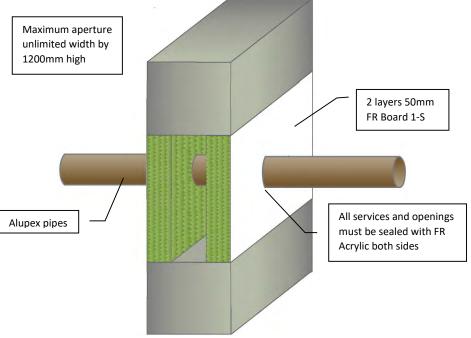
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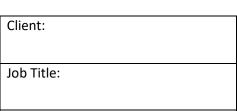


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Products Protecta FR Board
Protecta FR Acrylic

**Application** Fire stopping of un-insulated

alupex pipes in rigid walls

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

Alupex pipes ≤ Ø20mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

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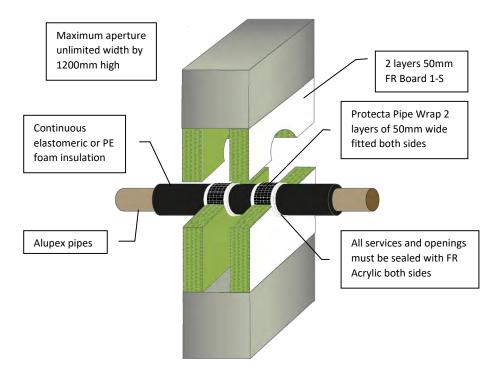
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Job Title:

**Products** Protecta FR Board

Protecta FR Acrylic

Protecta FR Pipe Wrap 25m

**Application** Fire stopping of insulated

alupex pipes in rigid walls

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq 650 \text{ kg/m}^3$ 

### Fire & Sound classification

Alupex pipes ≤ Ø75mm with 9 - 25mm continuous foam insulation

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

### Minimum separations and limitations

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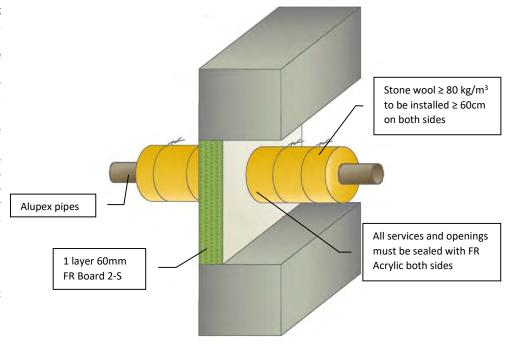
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Signed and approved:



### Fire & Sound classification

Alupex pipes ≤ Ø75mm with ≥ 30mm stone wool insulation in maximum aperture 200mm wide and 200mm high EI 120 C/C & E 120 C/C

Alupex pipes ≤ Ø75mm with ≥ 30mm stone wool insulation in maximum aperture unlimited width by 1200mm high EI 90 C/C & E 120 C/C

Sound reduction (seal only) 29 dB

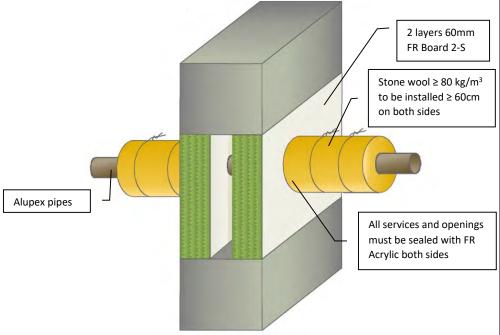


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Signed and approved:

### Client: Dob Title: Products Protecta FR Board Protecta FR Acrylic Application Fire stopping of insulated alupex pipes in rigid walls Construction Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry.

### Fire & Sound classification

Alupex pipes ≤ Ø16mm with ≥ 30mm stone wool insulation in maximum aperture 1200mm wide and 1200mm high EI 240 U/C & E 240 U/C

with a density of  $\geq$  650 kg/m<sup>3</sup>

Alupex pipes ≤ Ø16mm with ≥ 30mm stone wool insulation in maximum aperture unlimited width by 1200mm high EI 180 U/C & E 240 U/C

Alupex pipes ≤ Ø75mm with ≥ 30mm stone wool insulation in maximum aperture unlimited width by 1200mm high EI 120 C/C & E 120 C/C

Sound reduction (seal only)

52 dB

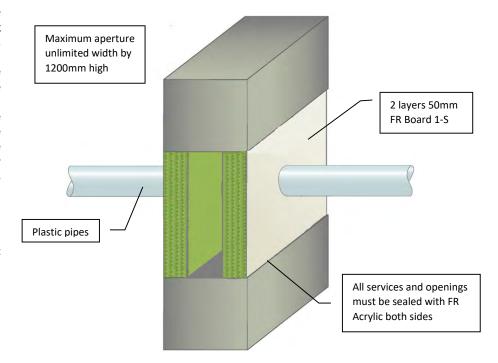


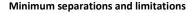
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Tel: +44 (0) 148 4421036

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Signed and approved:

Client:

Job Title:

**Products** Protecta FR Board

Protecta FR Acrylic

**Application** Fire stopping of plastic pipes in

rigid walls

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

PEX pipe-in-pipe ≤ Ø25mm

EI 90 C/C & E 90 C/C

PVC-U and PVC-C pipes  $\leq$  Ø32mm with wall thickness 1.0-2.4mm EI 60 U/C & E 90 U/C

PE, ABS and SAN+PVC pipes  $\leq$  Ø32mm with wall thickness 2.0-3.0mm EI 60 U/C & E 60 U/C

PP pipes  $\leq$  Ø32mm with wall thickness 1.8-2.2mm EI 60 U/C & E 120 U/C

Sound reduction (seal only)

52 dF



Huddersfield, West Yorkshire, HD1 6SB

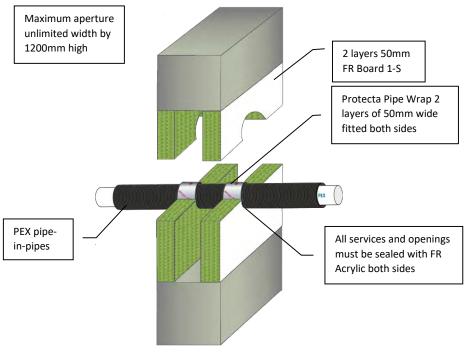
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 5/3/19

Scale: Drawn by: K.B

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

# Client: Products Protecta FR Board Protecta FR Acrylic Protecta FR Pipe Wrap Application Fire stopping of PEX pipe-inpipes in rigid walls Construction Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m³

### Fire & Sound classification

PEX pipe-in-pipes ≤ Ø54mm

EI 120 C/C & E 120 C/C

PEX pipe-in-pipes  $\leq \emptyset 25$ mm in bundles  $\leq \emptyset 50$ mm

EI 90 C/C & E 90 C/C

Sound reduction (seal only)

52 dB

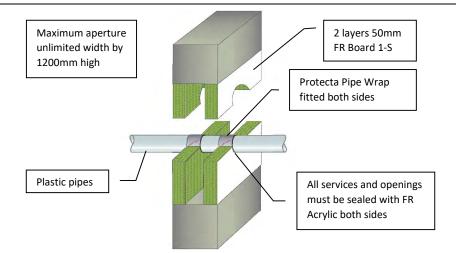


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Tel: +44 (0) 148 4421036

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| NTS         | K.B              |  |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



| Services                    | Pipe Wall Thickness | FR Pipe Wrap            | Classification         |
|-----------------------------|---------------------|-------------------------|------------------------|
| ≤ Ø 40mm PVC-U & PVC-C      | 1.9 – 3.0mm         | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø 40mm PE, ABS & SAN+PVC  | 2.4 – 3.7mm         | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø 40mm PP                 | 1.8 – 5.5mm         | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm PVC-U & PVC-C     | 2.7 – 6.6mm         | 50 x 3.6mm (2 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 110mm PE, ABS & SAN+PVC | 4.2 – 10.0mm        | 50 x 3.6mm (2 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 110mm PP                | 2.7 – 15.1mm        | 50 x 3.6mm (2 layers)   | EI 90 U/U (E 90 U/U)   |
| ≤ Ø 125mm PVC-U & PVC-C     | 3.7 – <b>7.4</b> mm | 50 x 5.4mm (3 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 125mm PE, ABS & SAN+PVC | 4.8 – 12.0mm        | 50 x 5.4mm (3 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 125mm PP                | 3.1 – 17.1mm        | 50 x 5.4mm (3 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 160mm PVC-U & PVC-C     | 9.5mm               | 50 x 7.2mm (4 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤Ø 160mm PE, ABS & SAN+PVC  | 14.6mm              | 50 x 7.2mm (4 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 160mm PP                | 21.9mm              | 50 x 7.2mm (4 layers)   | EI 90 U/C (E 120 U/C)  |
| ≤ Ø 200mm PVC-U & PVC-C     | 9.0 – 10.2mm        | 50 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |
| ≤ Ø 250mm PVC-U & PVC-C     | 8.5 – 11.0mm        | 50 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |
| ≤ Ø 315mm PVC-U & PVC-C     | 7.7 – 12.1mm        | 50 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |
| ≤Ø 400mm PVC-U & PVC-C      | 9.8 – 15.3mm        | 50 x 28.8mm (16 layers) | EI 90 C/C (E 90 C/C)   |

Minimum separations and limitations An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |   |
|--------------|---|
| Job Title:   |   |
| Products     | Protecta FR Board<br>Protecta FR Acrylic<br>Protecta FR Pipe Wrap 25m |
| Application  | Fire stopping of plastic pipes in rigid walls                         |
| Construction | Minimum wall thickness of 100 mm and comprise concrete,               |

### Fire & Sound classification

For fire classifications please see the table on the left.

aerated concrete or masonry,

with a density of  $\geq$  650 kg/m<sup>3</sup>

Sound reduction (seal only)

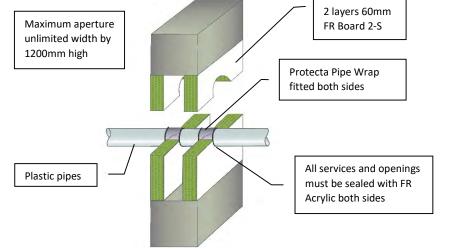
52 dB



Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



| Services                    | Pipe Wall Thickness | FR Pipe Wrap            | Classification         |
|-----------------------------|---------------------|-------------------------|------------------------|
| ≤ Ø 40mm PVC-U & PVC-C      | 1.9 – 3.0mm         | 50 x 1.8mm (1 layer)    | EI 240 U/C (E 240 U/C) |
| ≤ Ø 40mm PE, ABS & SAN+PVC  | 2.4 – 4.6mm         | 50 x 1.8mm (1 layer)    | EI 240 U/C (E 240 U/C) |
| ≤ Ø 40mm PP                 | 1.8 – 5.5mm         | 50 x 1.8mm (1 layer)    | EI 240 U/C (E 240 U/C) |
| ≤ Ø 110mm PVC-U & PVC-C     | 2.7 – 6.6mm         | 50 x 3.6mm (2 layers)   | EI 240 U/C (E 240 U/C) |
| ≤ Ø 110mm PE, ABS & SAN+PVC | 3.4 – 10.0mm        | 50 x 3.6mm (2 layers)   | EI 240 U/C (E 240 U/C) |
| ≤ Ø 110mm PP                | 2.7 – 10.0mm        | 50 x 3.6mm (2 layers)   | EI 240 C/C (E 240 C/C) |
| ≤ Ø 125mm PVC-U & PVC-C     | 4.7 – 7.4mm         | 50 x 7.2mm (4 layers)   | EI 240 U/C (E 240 U/C) |
| ≤ Ø 125mm PE, ABS & SAN+PVC | 3.9 – <b>7.4mm</b>  | 50 x 7.2mm (4 layers)   | EI 240 U/C (E 240 U/C) |
| ≤ Ø 125mm PP                | 3.1 – 11.4mm        | 50 x 7.2mm (4 layers)   | EI 240 C/C (E 240 C/C) |
| ≤ Ø 160mm PVC-U & PVC-C     | 4.0 – 9.5mm         | 50 x 10.8mm (6 layers)  | EI 240 U/C (E 240 U/C) |
| ≤ Ø 160mm PE, ABS & SAN+PVC | 4.9 – 9.5mm         | 50 x 10.8mm (6 layers)  | EI 240 U/C (E 240 U/C) |
| ≤ Ø 160mm PP                | 4.9 – 14.6mm        | 50 x 10.8mm (6 layers)  | EI 240 C/C (E 240 C/C) |
| ≤ Ø 200mm PVC-U & PVC-C     | 5.0 – 10.2mm        | 75 x 18.0mm (10 layers) | EI 120 C/C (E 120 C/C) |
| ≤ Ø 250mm PVC-U & PVC-C     | 6.0 – 11.0mm        | 75 x 18.0mm (10 layers) | EI 120 C/C (E 120 C/C) |
| ≤ Ø 315mm PVC-U & PVC-C     | 7.7 – 12.1mm        | 75 x 18.0mm (10 layers) | EI 120 C/C (E 120 C/C) |
| ≤ Ø 400mm PVC-U & PVC-C     | 9.8 – 15.3mm        | 75 x 28.8mm (16 layers) | EI 120 C/C (E 120 C/C) |

Minimum separations and limitations An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services should not exceed 60% of the penetration area.



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Signed and approved:

| Client:      |   |
|--------------|---|
|              |   |
| Job Title:   |   |
|              |   |
| Products     | Protecta FR Board   |
|              | Protecta FR Acrylic   |
|              | Protecta FR Pipe Wrap 25m   |
| Application  | Fire stopping of plastic pipes in rigid walls   |
| Construction | Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of $\geq$ 650 kg/m <sup>3</sup> |

### Fire & Sound classification

For fire classifications please see the table on the left.

Sound reduction (seal only)

52 dB

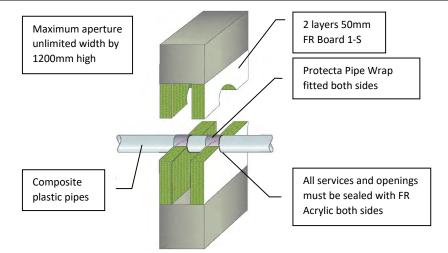


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|             | NTS    | K.B              |

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



| Services                             | FR Pipe Wrap           | Classification         |
|--------------------------------------|------------------------|------------------------|
| Ø 32mm Aquatherm Green SDR9 pipes    | 50 x 1.8mm (1 layer)   | EI 90 C/C (E 120 C/C)  |
| ≤ Ø 110mm Aquatherm Green SDR9 pipes | 50 x 3.6mm (2 layers)  | EI 90 C/C (E 120 C/C)  |
| ≤ Ø 50mm BluePower pipes             | 50 x 3.6mm (2 layers)  | EI 90 U/U (E 90 U/U)   |
| ≤ Ø 110mm BluePower pipes            | 50 x 3.6mm (2 layers)  | EI 90 C/U (E 90 C/U)   |
| ≤ Ø 50mm Geberit Silent-PP pipes     | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Geberit Silent-PP pipes    | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Polo-Kal NG pipes           | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Polo-Kal NG pipes          | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 125mm Polo-Kal NG pipes            | 50 x 7.2mm (4 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 160mm Polo-Kal NG pipes            | 50 x 10.8mm (6 layers) | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Rehau Raupiano Plus pipes   | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Rehau Raupiano Plus pipes  | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 125mm Rehau Raupiano Plus pipes    | 50 x 7.2mm (4 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 160mm Rehau Raupiano Plus pipes    | 50 x 10.8mm (6 layers) | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Wavin SiTech pipes          | 50 x 3.6mm (2 layers)  | EI 90 U/U (E 120 U/U)  |
| ≤ Ø 110mm Wavin SiTech pipes         | 50 x 3.6mm (2 layers)  | EI 60 U/C (E 120 U/C)  |

Minimum separations and limitations An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Cl  | ient:      |   |
|-----|------------|---|
| Jo  | b Title:   |   |
| Pro | oducts     | Protecta FR Board<br>Protecta FR Acrylic<br>Protecta FR Pipe Wrap 25m |
| Ap  | plication  | Fire stopping of composite plastic pipes in rigid walls               |
| Co  | nstruction | Minimum wall thickness of 100 mm and comprise concrete,               |

### Fire & Sound classification

For fire classifications please see the table on the left.

aerated concrete or masonry,

with a density of  $\geq$  650 kg/m<sup>3</sup>

Sound reduction (seal only)

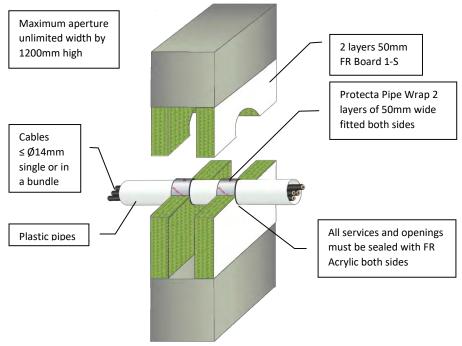
52 dB

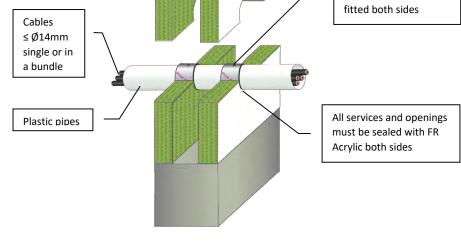


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| NTS         | K.B              |

- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





### Client: Job Title: **Products** Protecta FR Board Protecta FR Acrylic Protecta FR Pipe Wrap Application Fire stopping of conduits in rigid walls

Construction Minimum wall thickness of 100

> mm and comprise concrete. aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

### Fire & Sound classification

Conduits of PVC-U & PVC-C pipes ≤ Ø110mm with wall thickness 2.7-6.6mm

EI 90 U/C & E 120 U/C

Conduits of PE, ABS & SAN+PVC pipes ≤ Ø110mm with wall thickness 4.2-10.0mm EI 90 U/C & E 120 U/C

Conduits of PP pipes ≤ Ø110mm with wall thickness 2.7-15.1mm EI 90 U/C & E 120 U/C

Sound reduction (seal only) 52 dB

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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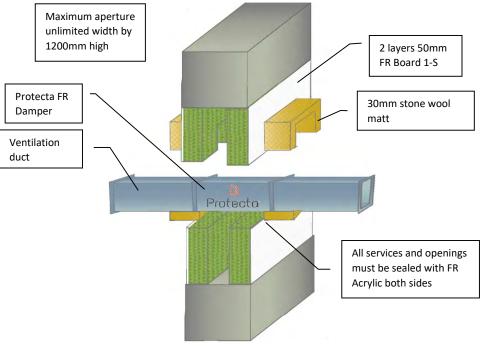
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| NTS         | K.B              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Insulate the ventilation duct towards the fire seal on both sides with 30mm thick stone wool matting to the length given on this page. Insulate on one side only if the duct terminates in the wall.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

This product is certified to applicable European (EN) standards and UL-EU Mark service requirements.

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Signed and approved:

Client:

Job Title:

Products

Protecta FR Board

Protecta FR Acrylic

Protecta FR Damper

Application

Fire stopping of ventilation ducts in rigid walls

Construction

Minimum wall thickness of 100 mm and comprise concrete.

### Fire & Sound classification

≤ **Ø 400mm** damper/duct with ≥ 200mm stone wool matt on both sides

EI 120 & E 120

≤ **Ø 1250mm** damper/duct with ≥ 500mm stone wool matt on both sides

aerated concrete or masonry,

with a density of ≥ 650 kg/m<sup>3</sup>

EI 60 & E 90

≤ 600mm high x 1000mm wide damper/duct with ≥ 500mm stone wool matt on both sides

EI 120 & E 120

≤ 1200mm high x 1700mm wide damper/duct with ≥ 500mm stone wool matt on both sides EI 90 & E 90

Sound reduction (seal only)

52 dB

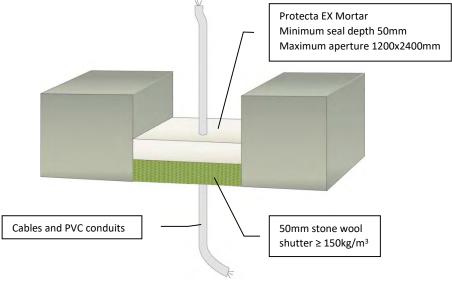


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| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 4. Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



### Minimum separations and limitations

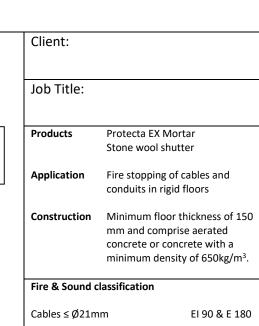
An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:



Cables  $\leq$  Ø21mm in tied bundles  $\leq$  Ø100mm and PVC conduits (C/U)  $\leq$  Ø16mm EI 180 & E 180

Non-sheathed cables/wires ≤ Ø17mm

EI 60 & E 180

Sound reduction (seal only)

48dB

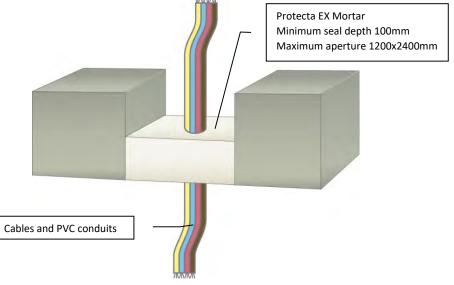


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| A4          | 6/3/19           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar
Application Fire stopping of cables and conduits in rigid floors
Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

### Fire & Sound classification

Cables ≤ Ø21mm

EI 90 & E 180

Cables  $\leq$  Ø21mm in tied bundles  $\leq$  Ø100mm and PVC conduits (C/U)  $\leq$  Ø16mm EI 180 & E 180

minimum density of 650kg/m<sup>3</sup>

Cables ≤ Ø50mm, single or bundled

EI 60 & E 180

Cables ≤ Ø80mm, single or bundled

EI 60 & E 120

Non-sheathed cables/wires ≤ Ø17mm

EI 60 & E 180

Sound reduction (seal only)

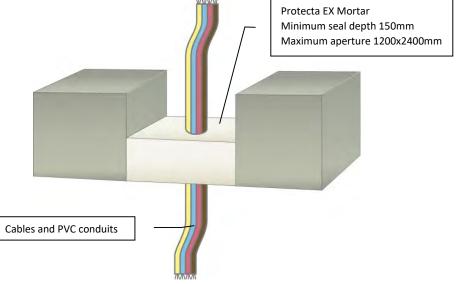
48dB



Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- 2. The seal can be positioned to either side of the construction or anywhere in between.
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### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar
Application Fire stopping of cables and conduits in rigid floors
Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

### Fire & Sound classification

Cables ≤ Ø21mm, single

EI 120 & E 240

Cables  $\leq$  Ø21mm in tied bundles  $\leq$  Ø100mm and PVC conduits (C/U)  $\leq$  Ø16mm EI 180 & E 180

minimum density of 650kg/m<sup>3</sup>

Cables ≤ Ø50mm, single or bundled

EI 90 & E 240

Cables ≤ Ø80mm, single or bundled

EI 60 & E 120

Unsheathed wires/cables ≤ Ø24 mm

EI 120 & E 120

Sound reduction (seal only)

48dB



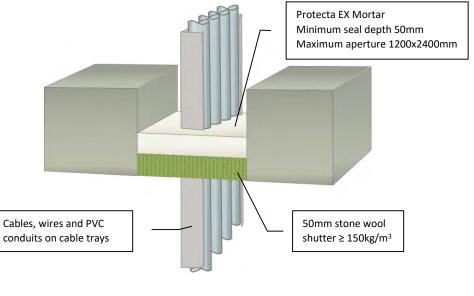
Huddersfield, West Yorkshire, HD1 6SB

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





### Minimum separations and limitations

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar
Stone wool shutter

Application Fire stopping of cables, wires and conduits on cable trays in rigid floors

Construction Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³.

### Fire & Sound classification

Cables ≤ Ø21mm, single or bundled on trays EI 60 & E 180

Cables  $\leq$  Ø21mm, single or bundled, nonsheathed cables/wires  $\leq$  Ø17mm and PVC conduits (C/U)  $\leq$  Ø16mm on trays or ladders EI 60 & E 90

Sound reduction (seal only)

48dB

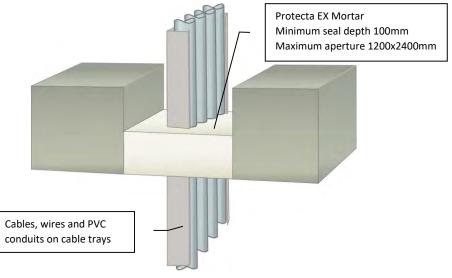


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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 6. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure). 4.85kN on sizes up to 1200mm x 2400mm.

### Minimum separations and limitations

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar

Application Fire stopping of cables, wires and conduits on cable trays in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated

Fire & Sound classification

Cables  $\leq \emptyset$ 50mm, single or bundled, nonsheathed cables/wires  $\leq \emptyset$ 17mm and PVC conduits  $\leq \emptyset$ 16mm (C/U) on trays

concrete or concrete with a

minimum density of 650kg/m<sup>3</sup>

EI 60 & E 180

Cables  $\leq \emptyset 80$ mm, single or bundled, nonsheathed cables/wires  $\leq \emptyset 17$ mm and PVC conduits  $\leq \emptyset 16$ mm (C/U) on trays or ladders EI 60 & E 120

Sound reduction (seal only)

48dB

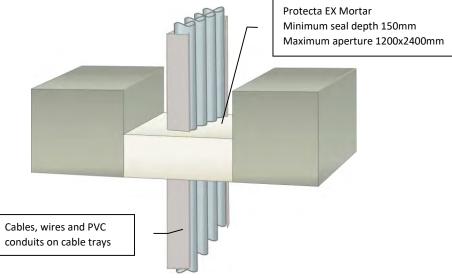


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| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- 6. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

### Minimum separations and limitations

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Products
Application

Prostruction

Construction

Protecta EX Mortar
Fire stopping of cables, wires and conduits on cable trays in rigid floors

Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

### Fire & Sound classification

Cables ≤ Ø21mm, single or bundled on trays or ladders ≤ 500mm wide EI 120 & E 240

minimum density of 650kg/m<sup>3</sup>

Cables ≤ Ø80mm, single or bundled on trays or ladders EI 60 & E 120

PVC conduits ≤ Ø16mm (C/U) on trays or ladders ≤ 500mm wide EI 120 & E 180

Unsheathed wires/cables  $\leq$  Ø24 mm on trays or ladders  $\leq$  500mm wide EI 120 & E 120

Sound reduction (seal only)

484B



Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

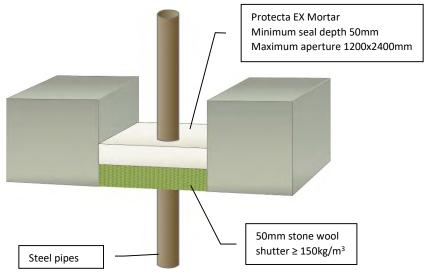
Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 6/3/19

Scale: Drawn by: K.B

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- Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic.
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   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





### Minimum separations and limitations

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Signed and approved:

|   | Client:      |   |
|---|--------------|---|
|   | Job Title:   |   |
|   | Products     | Protecta EX Mortar                        |
| J |              | Stone wool shutter                        |
|   | Application  | Fire stopping of un-insulated             |
|   |              | steel pipes in rigid floors               |
|   | Construction | Minimum floor thickness of 150            |
|   |              | mm and comprise aerated                   |
|   |              | concrete or concrete with a               |
|   |              | minimum density of 650kg/m <sup>3</sup> . |

### Fire & Sound classification

Steel pipes ≤ Ø16mm

EI 180 C/U & E 180 C/U

Sound reduction (seal only)

48dB

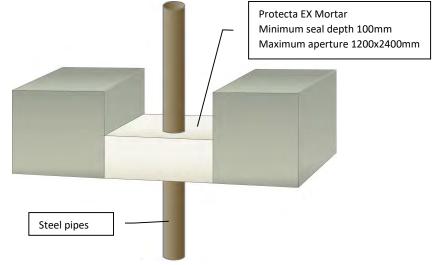


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| Scale:      | Drawn by:        |
| NTS         | K.B              |

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### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

# Client: Job Title: Products Protecta EX Mortar Application Fire stopping of un-insulated steel pipes in rigid floors Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³.

### Fire & Sound classification

Steel pipes ≤ Ø16mm

EI 240 C/U & E 240 C/U

Sound reduction (seal only)

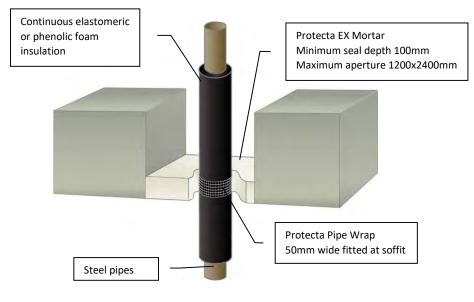
48dB



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| NTS         | K.B              |

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### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

### Minimum separations and limitations

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products Protecta EX Mortar
Protecta FR Pipe Wrap 25m
Application Fire stopping of insulated steel
pipes in rigid floors
Construction Minimum floor thickness of 150
mm and comprise aerated
concrete or concrete with a

### Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with 13mm continuous foam insulation and 1 layer of pipe wrap

EI 180 C/U & E 180 C/U

minimum density of 650kg/m<sup>3</sup>.

<u>Steel pipes ≤ Ø40mm</u> with 14-25mm continuous foam insulation and 2 layers of pipe wrap

EI 180 C/U & E 180 C/U Steel pipes  $\leq \emptyset$ 165mm with 14 - 19mm

continuous foam insulation and 1 layer of pipe wrap EI 120 C/U & E 180 C/U Steel pipes ≤ Ø324mm with 25mm continuous foam insulation and 2 layers of pipe wrap EI 120 C/U & E 180 C/U

Steel pipes ≤ Ø324mm with 26 - 50mm continuous foam insulation and 3 layers of pipe wrap EI 120 C/U & E 120 C/U Sound reduction (seal only) 48dB

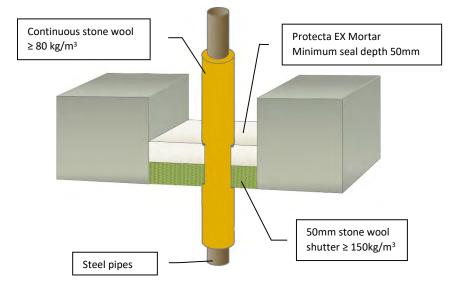
()) Protecta

Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 4. Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products

Protecta EX Mortar
Stone wool shutter

Application

Fire stopping of insulated steel pipes in rigid floors

Construction

Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

### Fire & Sound classification

Steel pipes  $\leq$  Ø324mm with 20-80mm thick stone wool insulation in maximum apertures 1200 x 2400mm EI 180 C/U & E 180 C/U

minimum density of 650kg/m<sup>3</sup>

Steel pipes ≤ Ø324mm with 20-80mm thick stone wool insulation in maximum apertures 550 x 1100mm EI 240 C/U & E 240 C/U

Sound reduction (seal only)

Protecta®
Polyseam Ltd. 15 St Andrews Road.

Huddersfield, West Yorkshire, HD1 6SB

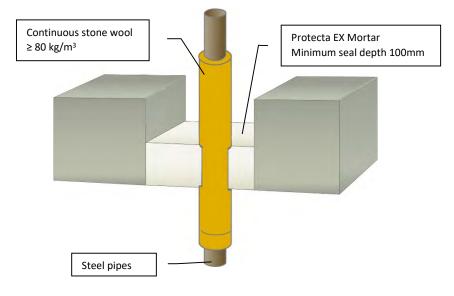
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

48dB

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
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- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
|              |  |
| Job Title:   |  |
|              |  |
| Products     | Protecta EX Mortar                                     |
| Application  | Fire stopping of insulated steel pipes in rigid floors |
| Construction | Minimum floor thickness of 150 mm and comprise aerated |
|              | concrete or concrete with a                            |

#### Fire & Sound classification

Steel pipes  $\leq \emptyset$ 324mm with 20-80mm thick stone wool insulation in maximum apertures 1200 x 2400mm

EI 240 C/U & E 240 C/U

minimum density of 650kg/m<sup>3</sup>

Sound reduction (seal only)

48dB

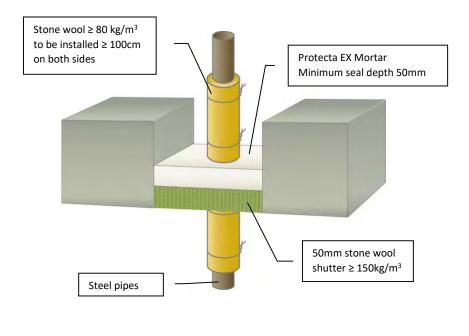


Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
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   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products
Protecta EX Mortar
Stone wool shutter
Application
Fire stopping of insulated steel pipes in rigid floors
Construction
Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

#### Fire & Sound classification

Steel pipes  $\leq \emptyset 40 \text{mm}$  with  $\geq 20 \text{mm}$  stone wool insulation in maximum apertures

minimum density of 650kg/m<sup>3</sup>.

1200 x 2400mm EI 180 C/U & E 180 C/U Steel pipes  $\leq \emptyset$ 40mm with  $\geq$  20mm stone wool

insulation in maximum apertures

280 x 280mm EI 240 C/U & E 240 C/U Steel pipes  $\leq$  Ø219mm with  $\geq$  30mm stone wool

insulation in maximum apertures

1200 x 2400mm EI 90 C/U & E 180 C/U Steel pipes  $\leq$  Ø219mm with  $\geq$  30mm stone wool

insulation in maximum apertures

280 x 280mm EI 90 C/U & E 240 C/U

Sound reduction (seal only)



Huddersfield, West Yorkshire, HD1 6SB

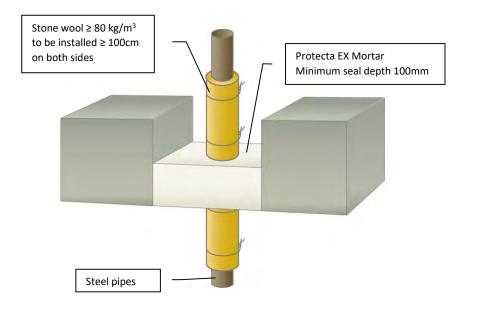
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 19/8/15
Scale: Drawn by: K.B

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- Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
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- 6. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure). 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar

Application Fire stopping of insulated steel

**Construction** Minimum floor thickness of 150 mm and comprise aerated

pipes in rigid floors

concrete or concrete with a minimum density of 650kg/m³.

#### Fire & Sound classification

Steel pipes  $\leq \emptyset 40$ mm with  $\geq 20$ mm stone wool insulation in maximum apertures

1200 x 2400mm

EI 240 C/U & E 240 C/U

Steel pipes  $\leq \emptyset$ 219mm with  $\geq$  30mm stone wool insulation in maximum apertures

1200 x 2400mm

EI 120 C/U & E 240 C/U

Sound reduction (seal only)

48dB



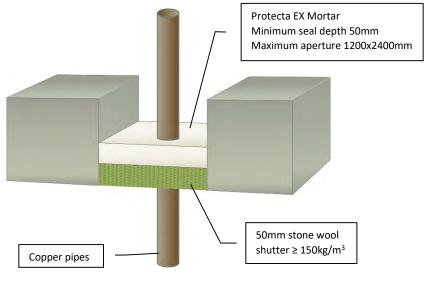
Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 23/5/18

Scale: Drawn by: K.B

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- 2. Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
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- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
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Signed and approved:

|   | Client:         |   |
|---|-----------------|---|
|   |                 |   |
| l | Job Title:      |   |
|   |                 |   |
|   | Products        | Protecta EX Mortar                        |
|   |                 | Stone wool shutter                        |
|   | Application     | Fire stopping of un-insulated             |
|   |                 | copper pipes in rigid floors              |
|   | Construction    | Minimum floor thickness of 150            |
|   |                 | mm and comprise aerated                   |
|   |                 | concrete or concrete with a               |
|   |                 | minimum density of 650kg/m <sup>3</sup> . |
|   |                 |   |
|   |                 |   |
|   | Fire & Sound cl | assification                              |
|   | Copper pipes Ø  | 6mm                                       |
|   |                 | EI 120 C/C & E 180 C/C                    |
|   |                 |   |

Copper pipes ≤ Ø15mm

EI 30 C/C & E 180 C/C

Sound reduction (seal only)

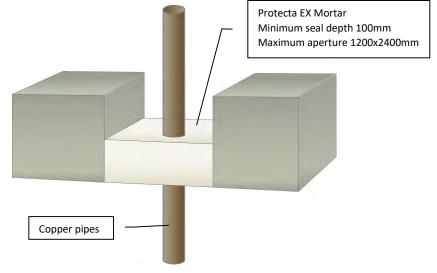
48dB



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| NTS         | K.B              |

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#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar

Application Fire stopping of un-insulated copper pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³.

#### Fire & Sound classification

Copper pipes Ø6mm

EI 120 C/C & E 180 C/C

Copper pipes ≤ Ø15mm

EI 30 C/C & E 180 C/C

Copper pipes ≤ Ø54mm

EI 20 C/C & E 120 C/C

Sound reduction (seal only)

48dB



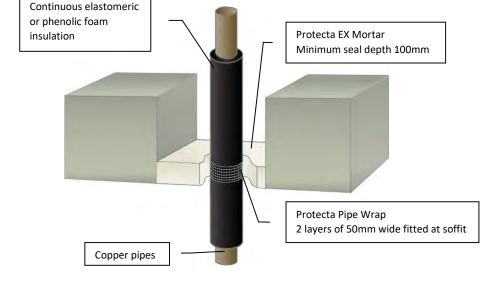
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NTS K.B

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#### **Loadbearing Properties**

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#### Minimum separations and limitations

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Signed and approved:

Client:

Job Title:

**Products** Protecta EX Mortar

Protecta FR Pipe Wrap 25m

**Application** Fire stopping of insulated

copper pipes in rigid floors

**Construction** Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

Copper pipes ≤ Ø12mm with 9mm foam insulation in maximum apertures 1200 x 2400mm

EI 240 C/C & E 240 C/C

Copper pipes ≤ Ø54mm with 13 - 25mm foam insulation in maximum apertures 1200 x 2400mm

EI 60 C/C & E 240 C/C

Sound reduction (seal only)

48dB

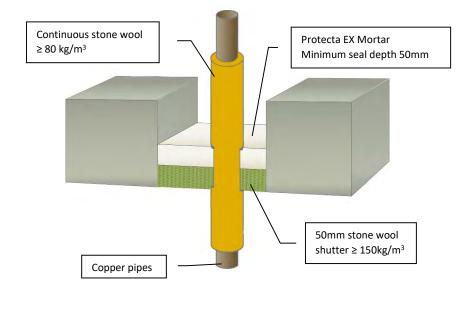


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Tel: +44 (0) 148 4421036

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| NTS         | K.B              |

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |   |
|--------------|---|
|              |   |
| Job Title:   |   |
|              |   |
| Products     | Protecta EX Mortar                      |
|              | Stone wool shutter                      |
| Application  | Fire stopping of insulated              |
|              | copper pipes in rigid floors            |
| Construction | Minimum floor thickness of 150          |
|              | mm and comprise aerated                 |
|              | concrete or concrete with a             |
|              | minimum density of 650kg/m <sup>3</sup> |

#### Fire & Sound classification

Copper pipes ≤ Ø54mm with 20-80mm thick stone wool insulation in maximum apertures 1200 x 2400mm

EI 120 C/C & E 180 C/C

Sound reduction (seal only)

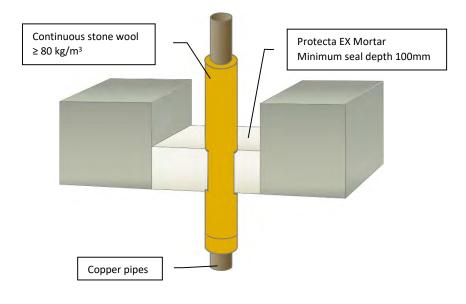
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- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |   |
|--------------|---|
|              |   |
|              |   |
| Job Title:   |   |
|              |   |
|              | -   |
| Products     | Protecta EX Mortar                        |
| Application  | Fire stopping of insulated                |
| Application  | copper pipes in rigid floors              |
|              | 1. P. |
| Construction | Minimum floor thickness of 150            |

mm and comprise aerated concrete or concrete with a

minimum density of 650kg/m<sup>3</sup>

#### Fire & Sound classification

Copper pipes ≤ Ø54mm with 20-80mm thick stone wool insulation in maximum apertures 1200 x 2400mm

EI 120 C/C & E 180 C/C

Sound reduction (seal only)

48dB

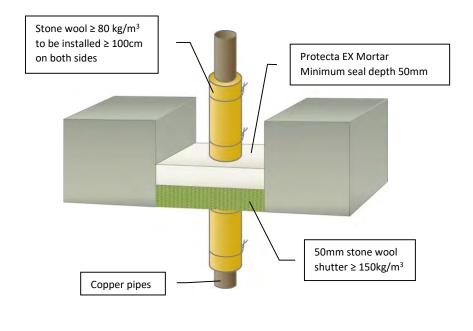


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| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |                                |
|--------------|--------------------------------|
|              |                                |
|              |                                |
| Job Title:   |                                |
|              |                                |
|              |                                |
| Products     | Protecta EX Mortar             |
|              | Stone wool shutter             |
| Application  | Fire stopping of insulated     |
|              | copper pipes in rigid floors   |
| Construction | Minimum floor thickness of 150 |
|              | mm and comprise aerated        |
|              | concrete or concrete with a    |

#### Fire & Sound classification

Copper pipes ≤ Ø12mm with ≥ 20mm stone wool insulation in maximum apertures 70 x 70mm EI 240 C/C & E 240 C/C

minimum density of 650kg/m3.

Copper pipes ≤ Ø54mm with ≥ 20mm stone wool insulation in maximum apertures 1200 x 2400mm EI 180 C/C & E 180 C/C

Copper pipes  $\leq$  Ø54mm with  $\geq$  20mm stone wool insulation in maximum apertures 115 x 115mm EI 180 C/C & E 240 C/C

Sound reduction (seal only) 48dB



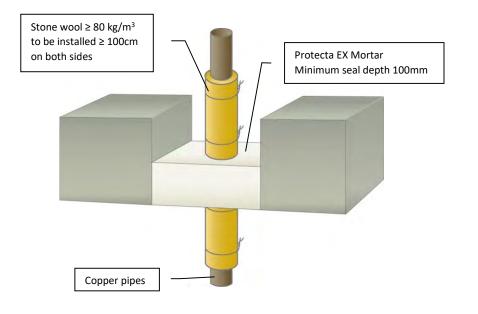
Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

- 1. Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards. level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 5. Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 6. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client: Job Title: **Products** Protecta EX Mortar **Application** Fire stopping of insulated copper pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>.

#### Fire & Sound classification

Copper pipes  $\leq \emptyset 12$ mm with  $\geq 20$ mm stone wool insulation in maximum apertures 1200 x 2400mm

EI 240 C/C & E 240 C/C

Copper pipes  $\leq \emptyset 54$ mm with  $\geq 20$ mm stone wool insulation in maximum apertures 1200 x 2400mm

EI 180 C/C & E 240 C/C

Sound reduction (seal only)

48dB

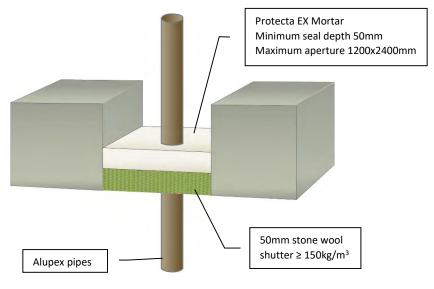


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| Α4          | 23/5/18          |
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| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal pipes passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:      |  |
|--------------|--|
| Job Title:   |  |
| Products     | Protecta EX Mortar<br>Stone wool shutter   |
| Application  | Fire stopping of un-insulated alupex pipes in rigid floors   |
| Construction | Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m <sup>3</sup> . |

#### Fire & Sound classification

Alupex pipes ≤ Ø20mm

EI 180 C/C & E 180 C/C

Sound reduction (seal only)

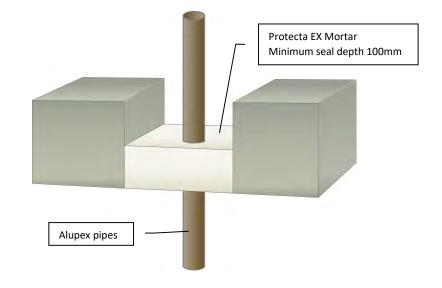
48dB



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| NTS         | K.B              |  |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar

Application Fire stopping of un-insulated alupex pipes in rigid floors

**Construction** Minimum floor thickness of 150 mm and comprise aerated

concrete or concrete with a minimum density of 650kg/m³.

#### Fire & Sound classification

Alupex pipes ≤ Ø20mm in maximum apertures 1200 x 2400mm

EI 180 C/C & E 180 C/C

Alupex pipes ≤ Ø75mm in maximum apertures 1200 x 2400mm

EI 20 U/C & E 240 U/C

Sound reduction (seal only)

48dB



Huddersfield, West Yorkshire, HD1 6SB

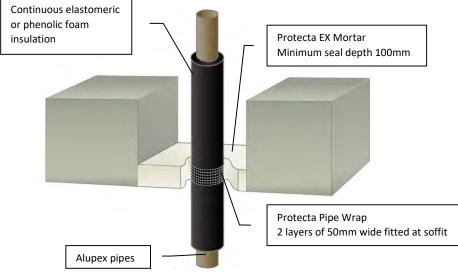
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 23/5/18

Scale: Drawn by: K.B

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products Protecta EX Mortar
Protecta FR Pipe Wrap 25m

Application Fire stopping of insulated
alupex pipes in rigid floors

Construction Minimum floor thickness of 150
mm and comprise aerated
concrete or concrete with a

#### Fire & Sound classification

Alupex pipes ≤ Ø16mm with 9mm foam insulation in maximum apertures

1200 x 2400mm EI 240 C/C & E 240 C/C

minimum density of 650kg/m<sup>3</sup>

Alupex pipes ≤ Ø75mm with 13 - 25mm foam insulation in maximum apertures

1200 x 2400mm EI 90 C/C & E 180 C/C

Alupex pipes ≤ Ø75mm with 9 - 13mm foam insulation in maximum apertures

1200 x 2400mm EI 90 C/C & E 240 C/C

Sound reduction (seal only)

Protecto®
Polyseam Ltd. 15 St Andrews Road.

Huddersfield, West Yorkshire, HD1 6SB

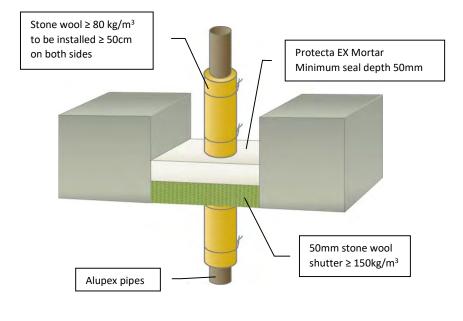
Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 4/3/19

Scale: Drawn by: K.B

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- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 4. Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- 5. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

| Client:                   |   |
|---------------------------|---|
|                           |   |
| Job Title:                |   |
|                           |   |
| Products                  | Protecta FX Mortar                            |
|                           | i i oteeta Extinortai                         |
|                           | Stone wool shutter                            |
| Application               |   |
| Application               | Stone wool shutter                            |
| Application  Construction | Stone wool shutter Fire stopping of insulated |

#### Fire & Sound classification

Alupex pipes ≤ Ø16mm with ≥ 20mm stone wool insulation in maximum apertures 135 x 135mm EI 240 C/C & E 240 C/C

concrete or concrete with a minimum density of 650kg/m<sup>3</sup>.

Alupex pipes ≤ Ø75mm with ≥ 20mm stone wool insulation in maximum apertures 1200 x 2400mm EI 180 C/C & E 180 C/C

Alupex pipes  $\leq$  Ø75mm with  $\geq$  20mm stone wool insulation in maximum apertures 135 x 135mm EI 180 C/C & E 240 C/C

Sound reduction (seal only) 48dB

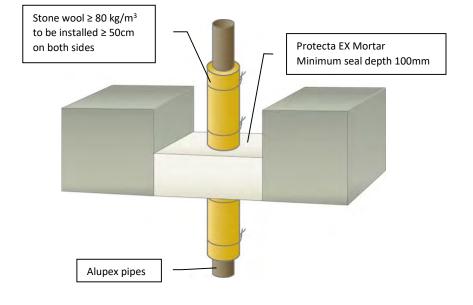


Huddersfield, West Yorkshire, HD1 6SB

Tel: +44 (0) 148 4421036

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| Scale:      | Drawn by:        |
| NTS         | K.B              |

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- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
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- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar

Application Fire stopping of insulated alupex pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

#### Fire & Sound classification

Alupex pipes ≤ Ø16mm with ≥ 20mm stone wool insulation in maximum apertures 1200 x 2400mm EI 240 C/C & E 240 C/C

minimum density of 650kg/m<sup>3</sup>.

Alupex pipes  $\leq$  Ø75mm with  $\geq$  20mm stone wool insulation in maximum apertures 1200 x 2400mm EI 180 C/C & E 240 C/C

Sound reduction (seal only)

Potecta®
Polyseam Ltd, 15 St Andrews Road,

Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036

Email: post.uk@polyseam.com

Sheet size: Drawn date & no:

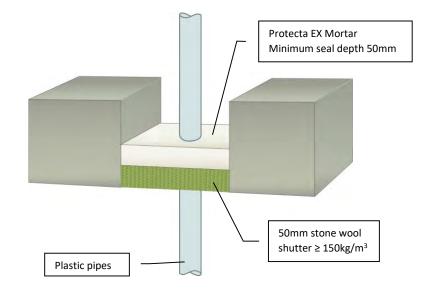
A4 23/5/18

Scale: Drawn by:

NTS K.B

48dB

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Products Protecta EX Mortar
Stone wool shutter

Application Fire stopping of plastic pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

#### Fire & Sound classification

PVC-U & PVC-C plastic pipes ≤ Ø40mm in maximum apertures 1200 x 2400mm

EI 120 U/C & E 120 U/C

PEX pipe-in-pipes ≤ Ø25mm in maximum apertures 1200 x 2400mm

EI 180 C/C & E 180 C/C

minimum density of 650kg/m<sup>3</sup>.

PEX pipe-in-pipes ≤ Ø25mm in maximum apertures 550 x 1100mm

EI 240 C/C & E 240 C/C

Sound reduction (seal only)

48dB



Huddersfield, West Yorkshire, HD1 6SB

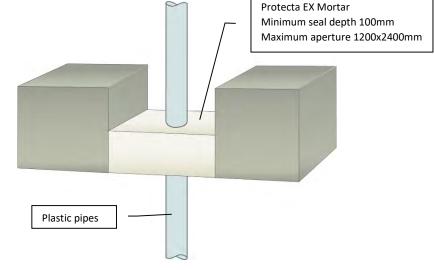
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Email: post.uk@polyseam.com

Sheet size: Drawn date & no: 23/5/18

Scale: Drawn by: K.B

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar

Application Fire stopping of plastic pipes in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a

#### Fire & Sound classification

PE, ABS, SAN+PVC & PP plastic pipes ≤ Ø40mm EI 120 U/C & E 120 U/C

minimum density of 650kg/m<sup>3</sup>.

PVC-U & PVC-C plastic pipes ≤ Ø40mm EI 120 U/C & E 120 U/C

PEX pipe-in-pipes ≤ Ø25mm

EI 240 C/C & E 240 C/C

Sound reduction (seal only)

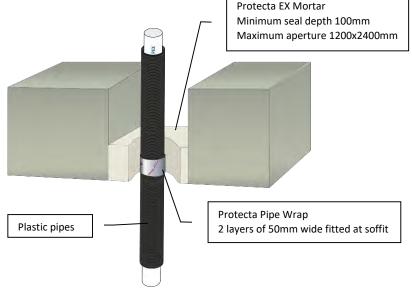
48dB



Sheet size: Drawn date & no: 23/5/18

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#### **Loadbearing Properties**

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Signed and approved:



#### Fire & Sound classification

PEX pipe-in-pipes ≤ Ø54mm

EI 120 C/C & E 120 C/C

Sound reduction (seal only)

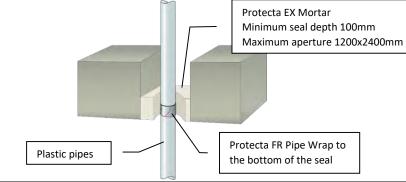
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|        | NTS         | K.B              |

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| Services                   | Pipe Wall          | Pipe Wrap              | Classification         |
|----------------------------|--------------------|------------------------|------------------------|
|                            | Thickness          |                        |                        |
| ≤ Ø40mm PVC-U & PVC-C      | 1.8 – 3.7mm        | 50 x 1.8mm (1 layer)   | EI 120 U/U (E 180 U/U) |
| ≤ Ø40mm PE, ABS & SAN+PVC  | 2.4 – 3.7mm        | 50 x 1.8mm (1 layer)   | EI 240 U/U (E 240 U/U) |
| ≤ Ø40mm PP                 | 1.8 – 5.5mm        | 50 x 1.8mm (1 layer)   | EI 120 U/U (E 120 U/U) |
| ≤ Ø110mm PVC-U & PVC-C     | 1.9 – 6.6mm        | 50 x 3.6mm (2 layers)  | EI 240 U/C (E 240 U/C) |
| ≤ Ø110mm PE, ABS & SAN+PVC | 2.5 – 10.0mm       | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| ≤ Ø110mm PP                | 1.9 – 6.3mm        | 50 x 3.6mm (2 layers)  | EI 240 U/C (E 240 U/C) |
| ≤ Ø125mm PVC-U & PVC-C     | 3.5 – <b>7.4mm</b> | 50 x 7.2mm (4 layers)  | EI 120 U/C (E 120 U/C) |
| ≤ Ø125mm PE, ABS & SAN+PVC | 3.9 – 11.4mm       | 50 x 7.2mm (4 layers)  | EI 240 U/C (E 240 U/C) |
| ≤ Ø125mm PP                | 3.4 – 11.4mm       | 50 x 7.2mm (4 layers)  | EI 240 U/C (E 240 U/C) |
| ≤ Ø160mm PVC-U & PVC-C     | 4.5 – 9.5mm        | 50 x 10.8mm (6 layers) | EI 90 C/C (E 90 C/C)   |
| ≤ Ø160mm PVC-U & PVC-C     | 4.5mm              | 50 x 10.8mm (6 layers) | EI 240 C/C (E 240 C/C) |
| ≤ Ø160mm PVC-U & PVC-C     | 9.5mm              | 50 x 10.8mm (6 layers) | EI 90 U/C (E 90 U/C)   |
| ≤ Ø160mm PE, ABS & SAN+PVC | 4.9 – 14.6mm       | 50 x 10.8mm (6 layers) | EI 120 U/C (E 120 U/C) |
| ≤ Ø160mm PP                | 4.9 – 14.6mm       | 50 x 10.8mm (6 layers) | EI 240 U/C (E 240 U/C) |
| ≤ Ø250mm PE, ABS & SAN+PVC | 7.8mm              | 75 x 12.6mm (7 layers) | EI 180 C/C (E 180 C/C) |

#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

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Signed and approved:

|   | Client:     |  |
|---|-------------|--|
|   |             |  |
| m | Job Title:  |  |
|   |             |  |
|   |             | 5 5  |
|   | Products    | Protecta EX Mortar                             |
|   |             | Protecta FR Pipe Wrap 25m                      |
|   | Application | Fire stopping of plastic pipes in rigid floors |

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>

Minimum floor thickness of 150

#### Fire & Sound classification

Construction

Fire classifications in table on the left.

Sound reduction (seal only)

48dB



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|   | NTS         | K.B              |

#### <u>Installation Instructions</u>

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
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| Plastic pipes  Protecta FR Pipe Wrap to the letters of the seed |               |  | Mini | ecta EX Mortar<br>mum seal depth 120<br>mum aperture 1200 |  |
|---|---------------|--|------|---|--|
| Plastic nines   —   |               |  | 1    |   |  |
| the bottom of the seal  | Plastic pipes |  |      | a FR Pipe Wrap to<br>tom of the seal                      |  |

| Services               | Pipe Wall    | Pipe Wrap               | Classification         |  |
|------------------------|--------------|-------------------------|------------------------|--|
|                        | Thickness    |                         |                        |  |
| Ø160mm PVC-U & PVC-C   | 4.5 – 9.5mm  | 50 x 10.8mm (6 layers)  | EI 120 U/C (E 120 U/C) |  |
| ≤ Ø200mm PP            | 4.9 – 18.2mm | 75 x 10.8mm (6 layers)  | EI 240 C/C (E 240 C/C) |  |
| ≤ Ø315mm PVC-U & PVC-C | 4.5 – 12.1mm | 75 x 18.0mm (10 layers) | EI 90 C/C (E 90 C/C)   |  |
| Ø315mm PVC-U & PVC-C   | 7.7mm        | 75 x 18.0mm (10 layers) | EI 120 C/C (E 120 C/C) |  |

Client:

Job Title:

**Products** Protecta EX Mortar

Protecta FR Pipe Wrap 25m

**Application** Fire stopping of plastic pipes in

rigid floors

**Construction** Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

48dB

#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

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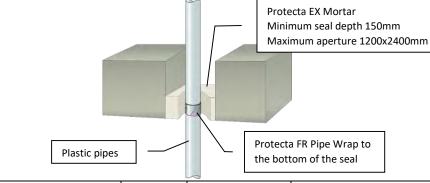
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K.B

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| Services                   | Pipe Wall<br>Thickness | Pipe Wrap               | Classification         |
|----------------------------|------------------------|-------------------------|------------------------|
| ≤ Ø40mm PVC-U & PVC-C      | 1.8 – 3.7mm            | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 180 U/U) |
| ≤ Ø40mm PE, ABS & SAN+PVC  | 2.4 – 3.7mm            | 50 x 1.8mm (1 layer)    | EI 240 U/U (E 240 U/U) |
| ≤ Ø40mm PP                 | 1.8 – 5.5mm            | 50 x 1.8mm (1 layer)    | EI 120 U/U (E 120 U/U) |
| ≤ Ø110mm PVC-U & PVC-C     | 1.9 – 6.8mm            | 50 x 7.2mm (4 layers)   | EI 60 U/U (E 60 U/U)   |
| ≤ Ø110mm PE, ABS & SAN+PVC | 3.4 – 10.0mm           | 75 x 5.4mm (3 layers)   | EI 240 U/U (E 240 U/U) |
| ≤ Ø110mm PP                | 3.7 – 10.5mm           | 50 x 7.2mm (4 layers)   | EI 240 U/U (E 240 U/U) |
| ≤ Ø125mm PVC-U & PVC-C     | 1.9 – 7.4mm            | 50 x 7.2mm (4 layers)   | EI 60 U/U (E 60 U/U)   |
| Ø125mm PVC-U & PVC-C       | 7.4mm                  | 50 x 7.2mm (4 layers)   | EI 120 U/U (E 120 U/U) |
| Ø125mm PE, ABS & SAN+PVC   | 11.4mm                 | 50 x 7.2mm (4 layers)   | EI 240 U/U (E 240 U/U) |
| Ø125mm PP                  | 11.4mm                 | 50 x 7.2mm (4 layers)   | EI 240 U/U (E 240 U/U) |
| Ø140mm PVC-U & PVC-C       | 6.5 – <b>8.3</b> mm    | 75 x 10.8mm (6 layers)  | EI 30 U/U (E 120 U/U)  |
| Ø140mm PE, ABS & SAN+PVC   | 8.0 – 12.4mm           | 75 x 10.8mm (6 layers)  | EI 120 U/U (E 240 U/U) |
| Ø140mm PP                  | 12.8mm                 | 75 x 7.2mm (4 layers)   | EI 240 U/U (E 240 U/U) |
| Ø160mm PVC-U & PVC-C       | 9.5mm                  | 75 x 7.2mm (4 layers)   | EI 30 U/U (E 120 U/U)  |
| ≤ Ø160mm PE, ABS & SAN+PVC | 4.9 – 14.6mm           | 75 x 7.2mm (4 layers)   | EI 120 U/U (E 120 U/U) |
| ≤ Ø160mm PE, ABS & SAN+PVC | 3.9 – 14.6mm           | 75 x 18.0mm (10 layers) | EI 120 U/U (E 240 U/U) |
| Ø160mm PP                  | 14.6mm                 | 75 x 7.2mm (4 layers)   | EI 240 U/U (E 240 U/U) |
| ≤ Ø315mm PE, ABS & SAN+PVC | 4.9 – 18.7mm           | 75 x 18.0mm (10 layers) | EI 60 C/C (E 60 C/C)   |
| ≤ Ø315mm PP                | 4.9 – 28.6mm           | 75 x 18.0mm (10 layers) | EI 60 C/C (E 60 C/C)   |
| Ø315mm PP                  | 7.7mm                  | 75 x 18.0mm (10 layers) | EI 180 C/C (E 180 C/C) |

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Signed and approved:

| Client:        |                           |
|----------------|---------------------------|
|                |                           |
|                |                           |
| <br>Job Title: |                           |
|                |                           |
| Products       | Protecta EX Mortar        |
|                | Protecta FR Pipe Wrap 25m |
|                |                           |

Application Fire stopping of plastic pipes in rigid floors

Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a

minimum density of 650kg/m<sup>3</sup>

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

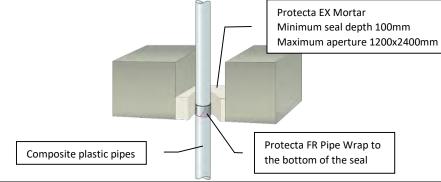
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| NTS         | K.B              |

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| Services                             | Pipe Wrap              | Classification         |
|--------------------------------------|------------------------|------------------------|
| Ø 32mm Aquatherm Green SDR9 pipes    | 50 x 1.8mm (1 layer)   | EI 240 C/C (E 240 C/C) |
| ≤ Ø 110mm Aquatherm Green SDR9 pipes | 50 x 3.6mm (2 layers)  | EI 240 C/C (E 240 C/C) |
| ≤ Ø 50mm Geberit Silent-PP pipes     | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Geberit Silent-PP pipes    | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| ≤ Ø 110mm Polo-Kal NG pipes          | 50 x 3.6mm (2 layers)  | EI 180 U/C (E 180 U/C) |
| Ø 125mm Polo-Kal NG pipes            | 50 x 7.2mm (4 layers)  | EI 240 U/C (E 240 U/C) |
| Ø 160mm Polo-Kal NG pipes            | 50 x 10.8mm (6 layers) | EI 240 U/C (E 240 U/C) |
| ≤ Ø 50mm Rehau Raupiano Plus pipes   | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Rehau Raupiano Plus pipes  | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |
| Ø 125mm Rehau Raupiano Plus pipes    | 50 x 7.2mm (4 layers)  | EI 120 U/C (E 240 U/C) |
| Ø 160mm Rehau Raupiano Plus pipes    | 50 x 10.8mm (6 layers) | EI 120 U/C (E 120 U/C) |
| ≤ Ø 50mm Wavin SiTech pipes          | 50 x 3.6mm (2 layers)  | EI 120 U/U (E 120 U/U) |
| ≤ Ø 110mm Wavin SiTech pipes         | 50 x 3.6mm (2 layers)  | EI 120 U/C (E 120 U/C) |

# Client: Job Title: Products Protecta EX Mortar Protecta FR Pipe Wrap 25m Application Fire stopping of composite plastic pipes in rigid floors Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

Fire classifications in table on the left.

Sound reduction (seal only)

48dB

#### Loadbearing Properties

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

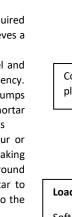
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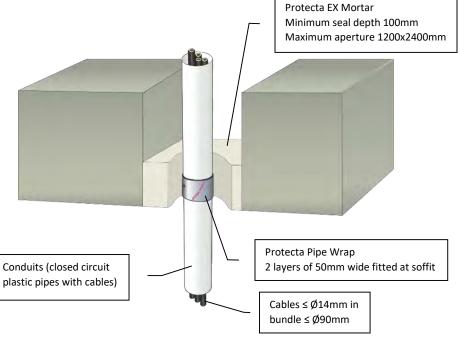


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|-------------|------------------|
| A4          | 4/3/19           |
| Scale:      | Drawn by:        |
| NTS         | K.B              |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. The seal can be positioned to either side of the construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.
   Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar
Protecta FR Pipe Wrap 25m

·

**Application** Fire stopping of conduits in rigid floors

**Construction** Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Fire & Sound classification

Conduits of PE, ABS & SAN+PVC plastic pipes  $\leq \emptyset$ 110mm EI 60 U/C & E 120 U/C

Conduits of PVC-U & PVC-C plastic pipes ≤ Ø110mm EI 120 U/C & E 120 U/C

Conduits of PP plastic pipes ≤ Ø110mm EI 60 U/C & E 60 U/C

Sound reduction (seal only)

484F



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Email: post.uk@polyseam.com

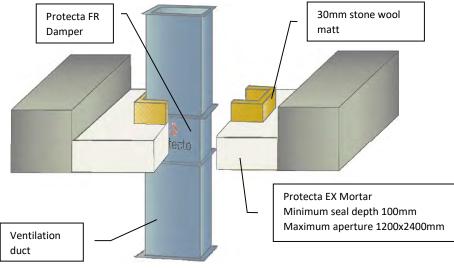
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- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency. Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process.
- Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.
- Insulate the ventilation duct towards the fire seal on the top side with 30mm thick stone wool matting to the length given on this page.



This product is certified to applicable European (EN) standards and UL-EU Mark service requirements.



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

Job Title:

Products Protecta EX Mortar
Protecta FR Damper

Application Fire stopping of ventilation ducts in rigid floors

Construction Minimum floor thickness of 150 mm and comprise aerated

#### Fire & Sound classification

≤ 0400mm damper/duct with ≥ 150mm stone wool matt on the top side EI 120 & E 180 ≤ 010000 Mm damper/duct with ≥ 50000 mm stone wool matt on the top side EI 90 & E 90  $≤ 600 \times 1000$ 00 mm damper/duct with ≥ 50000 mm stone wool matt on the top side EI 60 & E 90  $≤ 1000 \times 1000$ 00 mm damper/duct with ≥ 5000 mm stone wool matt on the top side EI 90 & E 90

concrete or concrete with a

minimum density of 650kg/m<sup>3</sup>.

Sound reduction (seal only) 48dB



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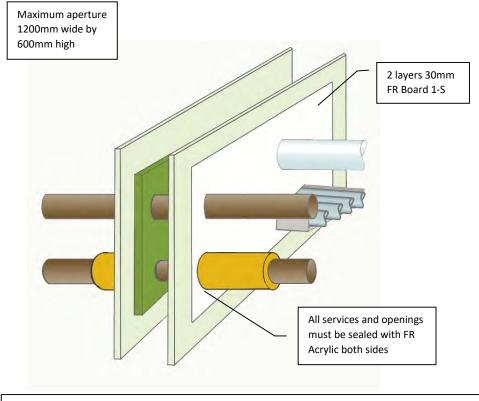
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# Appendix V

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Apertures with mixed services

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the gypsum on both sides.
- 4. When fire sealing shaft walls consisting of gypsum only on one side, subject to authority approval, install Protecta® FR Board on the exposed side. The board should be facing the (fire) exposed side.
- 5. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

ETA 13/0673 & 18/0855 Protecta®

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For all technical details on the products specified please refer to the technical data sheets that can be found on <a href="http://www.protecta.eu">http://www.protecta.eu</a>

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#### MIXED SERVICE APERTURE

Fire Classification El 30 Sound Reduction 29 dB

Installation details - Page 1 of 2

**Products** Protecta FR Board

Protecta FR Acrylic

**Construction** Minimum wall thickness of 75

mm and comprise steel studs or timber studs\* lined on both faces with minimum 1 layer of

12.5 mm thick boards

#### Services

- 1. Cables and cable trays
- 2. Steel pipes
- 3. Plastic pipes

For full specification see page 2.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

#### Durability

 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ .

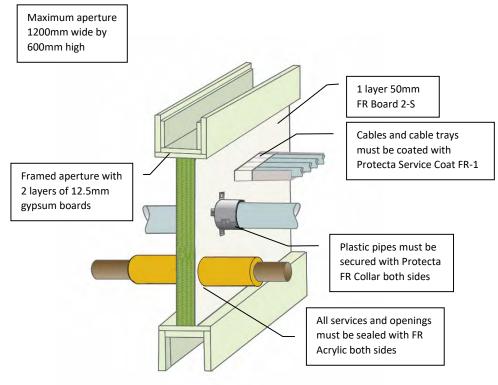
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Fire Classification EI 30 Sound Reduction 29 dB

List of services - Page 2 of 2

| Type of Services                                       | Size of Services  | Pipe wall thicknesses | Pipe Insulation                               | Pipe Wraps or Coat Back |
|--|-------------------|-----------------------|---|-------------------------|
| Cables, single or bundled, with or without cable trays | ≤ Ø80mm per cable | -                     | -   | -                       |
| Steel pipes C/U  | ≤ Ø22mm per pipe  | -                     | None  | -                       |
|  | ≤ Ø324mm per pipe | -                     | 20-30mm thick continuous stone wool ≥ 80kg/m³ | -                       |
| PVC-U and PVC-C pipes                                  | ≤ Ø32mm per pipe  | 1.0 – 1.8mm           | None  | None                    |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or anywhere in between.
- When fire sealing shaft walls consisting of gypsum only on one side, subject to authority approval, install Protecta® FR Board on the (fire) exposed side.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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# MIXED SERVICE APERTURE Fire Classification El 60

Sound Reduction 29 dB

#### Installation details - Page 1 of 2

**Products** Protecta FR Board

Protecta FR Acrylic Protecta FR Collar

Protecta ServiceCoat FR-1

Construction Minimum wall thickness of 100

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of

12.5 mm thick boards.

#### Services

- 1. Cables, cable trays and ladders
- 2. Steel pipes
- 3. Plastic pipes

For full specification see page 2.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

#### Durability

 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ .

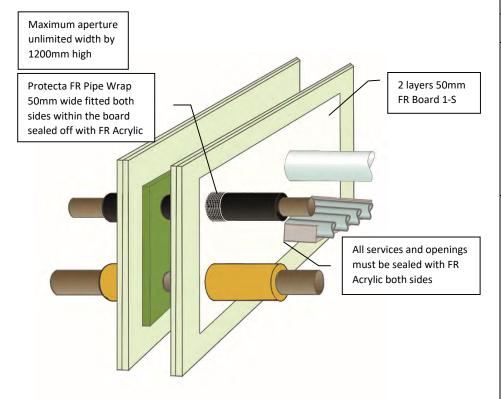
Scale: Drawn by & date: NTS K.B. 16/3/19

Fire Classification El 60 Sound Reduction 29 dB

List of services - Page 2 of 2

| Type of Services  | Size of Services  | Pipe wall thicknesses | Pipe Insulation                               | Pipe Collars or Coat Back                                   |  |
|---|-------------------|-----------------------|---|---|--|
| Cables, single or bundled, with or without perforated cable trays and ladders | ≤ Ø80mm per cable | -                     | -   | 150mm each side with 300μ WFT Protecta<br>Service Coat FR-1 |  |
| Steel pipes C/U   | ≤ Ø324mm per pipe | -                     | 20-30mm thick continuous stone wool ≥ 80kg/m³ | -   |  |
| PVC-U and PVC-C pipes U/C   | ≤ Ø110mm per pipe | 1.9 – 6.6mm           | None  | Protecta FR Collar 50mm high ≤ Ø110mm                       |  |
| PE, ABS and SAN+PVC pipes C/C   | ≤ Ø110mm per pipe | 3.0 – 10.0mm          | None  | with pig tail fixings on both sides                         |  |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The coated side of the board should be flush with the surface of the gypsum on both sides.
- 4. When fire sealing shaft walls consisting of gypsum only on one side, subject to authority approval, install Protecta® FR Board on the exposed side. The board should be facing the (fire) exposed side.
- 5. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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#### MIXED SERVICE APERTURE

Fire Classification El 60 Sound Reduction 52 dB

Installation details - Page 1 of 4

**Products** Protecta FR Board

Protecta FR Acrylic Protecta FR Pipe Wrap

**Construction** Minimum wall thickness of 100

mm and comprise steel studs or timber studs\* lined on both faces with minimum 2 layers of 12.5 mm thick boards.

#### Services

- 1. Cables, with or without cable trays
- 2. Steel pipes
- 3. Copper pipes
- 4. Alupex pipes
- 5. Plastic pipes
- 6. Composite pipes
- 7. Conduits
- 8. Ventilation ducts

For full specification see pages 2 - 4.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

#### Durability

 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ .

Scale: Drawn by & date: NTS K.B. 16/3/19

Fire Classification El 60 Sound Reduction 52 dB

List of services - Page 2 of 4

| Type of Services                             | Size of Services    | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|--|---------------------|-----------------------|--|----------------|-----------------------------------|
| Cables, single or bundled, with or w/o trays | ≤ Ø80mm per cable   | -                     | -  | -              | -                                 |
| Unsheathed cables/wires, with or w/o trays   | ≤ 185mm² per wire   | -                     | -  | -              | -                                 |
| Steel or PVC conduits, with or w/o trays     | ≤ Ø16mm per conduit | -                     | -  | C/U            | -                                 |
|  | ≤ Ø22mm per pipe    | -                     | None   | C/U            | -                                 |
|  | ≤ Ø40mm per pipe    | -                     | 13mm thick continuous elastomeric or PE                    | U/U            | 1 layer of 50mm wide both sides   |
|  | ≤ Ø165mm per pipe   | -                     | 13 - 32mm thick continuous elastomeric or PE               | U/U            | 2 layers of 50mm wide both sides  |
| Steel pipes                                  | ≤ Ø324mm per pipe   | -                     | 32 - 50mm thick continuous elastomeric or PE               | C/U            | 3 layers of 50mm wide both sides  |
|  | ≤ Ø324mm per pipe   | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -                                 |
|  | ≤ Ø40mm per pipe    | -                     | ≥ 20mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø219mm per pipe   | -                     | ≥ 30mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø6mm per pipe     | -                     | None   | C/C            | -                                 |
| Copper pipes                                 | ≤ Ø54mm per pipe    | -                     | 9 - 25mm thick continuous elastomeric or PE                | C/C            | 2 layers of 50mm wide both sides  |
|  | ≤ Ø54mm per pipe    | -                     | ≥ 20mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|  | ≤ Ø20mm per pipe    | -                     | None   | C/C            | -                                 |
| Alupex pipes                                 | ≤ Ø75mm per pipe    | -                     | 9 - 25mm thick continuous elastomeric or PE                | C/C            | 2 layers of 50mm wide both sides  |
|  | ≤ Ø75mm per pipe    | -                     | ≥ 20mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|  | ≤ Ø32mm per pipe    | 1.0-2.4mm             | -  | U/C            | None                              |
|  | ≤ Ø40mm per pipe    | 1.9-3.0mm             | -  | U/U            | 1 layer of 50mm wide both sides   |
|  | ≤ Ø110mm per pipe   | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide both sides  |
| PVC-U & PVC-C pipes                          | ≤ Ø125mm per pipe   | 3.7-7.4mm             | -  | U/C            | 3 layers of 50mm wide both sides  |
|  | ≤ Ø160mm per pipe   | 9.5mm                 | -  | U/C            | 4 layers of 50mm wide both sides  |
|  | ≤ Ø315mm per pipe   | 7.7-12.1mm            | -  | C/C            | 10 layers of 50mm wide both sides |
|  | ≤ Ø400mm per pipe   | 9.8-15.3mm            | -  | C/C            | 16 layers of 50mm wide both sides |

Fire Classification El 60 Sound Reduction 52 dB

List of services - Page 3 of 4

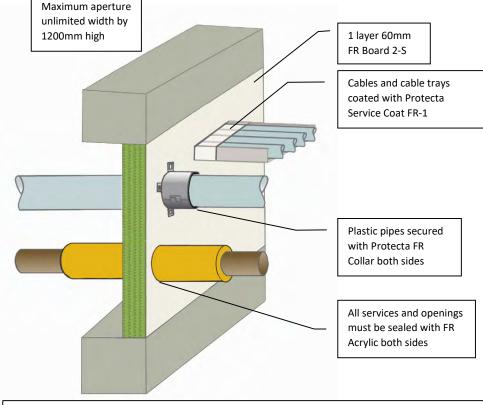
| Type of Services             | Size of Services           | Pipe wall thicknesses | Pipe Insulation | Pipe<br>config | Pipe Wraps                       |
|------------------------------|----------------------------|-----------------------|-----------------|----------------|----------------------------------|
|                              | ≤ Ø32mm per pipe           | 2.0-3.0mm             | -               | U/C            | None                             |
|                              | ≤ Ø40mm per pipe           | 2.4-3.7mm             | -               | U/U            | 1 layer of 50mm wide both sides  |
| PE, ABS and SAN+PVC pipes    | ≤ Ø110mm per pipe          | 4.2-10.0mm            | -               | U/C            | 2 layers of 50mm wide both sides |
|                              | ≤ Ø125mm per pipe          | 4.8-12.0mm            | -               | U/C            | 3 layers of 50mm wide both sides |
|                              | ≤ Ø160mm per pipe          | 14.6mm                | -               | U/C            | 4 layers of 50mm wide both sides |
|                              | ≤ Ø32mm per pipe           | 1.8-2.2mm             | -               | U/C            | None                             |
|                              | ≤ Ø40mm per pipe           | 1.8-5.5mm             | -               | U/U            | 1 layer of 50mm wide both sides  |
| PP pipes                     | ≤ Ø110mm per pipe          | 2.7-15.1mm            | -               | U/U            | 2 layers of 50mm wide both sides |
|                              | ≤ Ø125mm per pipe          | 3.1-17.1mm            | -               | U/C            | 3 layers of 50mm wide both sides |
|                              | ≤ Ø160mm per pipe          | 21.9mm                | -               | U/C            | 4 layers of 50mm wide both sides |
|                              | ≤ Ø25mm per pipe           | -                     | -               | C/C            | None                             |
| PEX pipe-in-pipes            | ≤ Ø54mm per pipe           | -                     | -               | C/C            | 2 layers of 50mm wide both sides |
|                              | ≤ Ø25mm in bundles ≤ Ø50mm | -                     | -               | C/C            | 2 layers of 50mm wide both sides |
| Assesth and Grant SDDG since | Ø32mm per pipe             | -                     | -               | C/C            | 1 layer of 50mm wide both sides  |
| Aquatherm Green SDR9 pipes   | ≤ Ø110mm per pipe          | -                     | -               | C/C            | 2 layers of 50mm wide both sides |
| Dive Devices mines           | ≤ Ø50mm per pipe           | -                     | -               | U/U            | 2 layers of 50mm wide both sides |
| BluePower pipes              | ≤ Ø110mm per pipe          | -                     | -               | C/U            | 2 layers of 50mm wide both sides |
| Cohorit Cilont DD minos      | ≤ Ø50mm per pipe           | -                     | -               | U/U            | 2 layers of 50mm wide both sides |
| Geberit Silent-PP pipes      | ≤ Ø110mm per pipe          | -                     | -               | U/C            | 2 layers of 50mm wide both sides |
| Polo-Kal NG pipes            | ≤ Ø50mm per pipe           | -                     | -               | U/U            | 2 layers of 50mm wide both sides |
|                              | ≤ Ø110mm per pipe          | -                     | -               | U/C            | 2 layers of 50mm wide both sides |
|                              | Ø125mm per pipe            | -                     | -               | U/C            | 4 layers of 50mm wide both sides |
|                              | Ø160mm per pipe            | -                     | -               | U/C            | 6 layers of 50mm wide both sides |

Fire Classification El 60 Sound Reduction 52 dB

List of services - Page 4 of 4

| Type of Services                    | Size of Services          | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                       |
|-------------------------------------|---------------------------|-----------------------|--|----------------|----------------------------------|
|                                     | ≤ Ø50mm per pipe          | 1                     | -  | U/U            | 2 layers of 50mm wide both sides |
| Dahau Bauriana Blua ninas           | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide both sides |
| Rehau Raupiano Plus pipes           | Ø125mm per pipe           | -                     | -  | U/C            | 4 layers of 50mm wide both sides |
|                                     | Ø160mm per pipe           | 1                     | -  | U/C            | 6 layers of 50mm wide both sides |
|                                     | ≤ Ø50mm per pipe          | 1                     | -  | U/U            | 2 layers of 50mm wide both sides |
| Wavin SiTech pipes                  | ≤ Ø110mm per pipe         | 1                     | -  | U/C            | 2 layers of 50mm wide both sides |
| Conduits of PVC-U & PVC-C pipes     | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide both sides |
| Conduits of PE, ABS & SAN+PVC pipes | ≤ Ø110mm w/cables ≤ Ø14mm | 4.2-10.0mm            | -  | U/C            | 2 layers of 50mm wide both sides |
| Conduits of PP pipe                 | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-15.1mm            | -  | U/C            | 2 layers of 50mm wide both sides |
| Ventilation ducts                   | ≤ Ø400mm                  | 1                     | ≥ 30mm thick x 20cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |
|                                     | ≤ Ø1250mm                 | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |
|                                     | ≤ 1200mm high x 1700mm w  | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The board can be positioned to either side of the construction or anywhere in between.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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# Fire Classification El 60 Sound Reduction 29 dB

Installation details - Page 1 of 2

Products Protecta FR Board
Protecta FR Acrylic

Protecta FR Acryllo Protecta FR Collar

Protecta ServiceCoat FR-1

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq$  650 kg/m<sup>3</sup>

#### Services

- 1. Cables, cable trays and ladders
- 2. Steel pipes
- Copper pipes
- 4. Alupex pipes
- 5. Plastic pipes

For full specification see page 2.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

#### Durability

 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ .

Scale: Drawn by & date: NTS K.B. 16/3/19

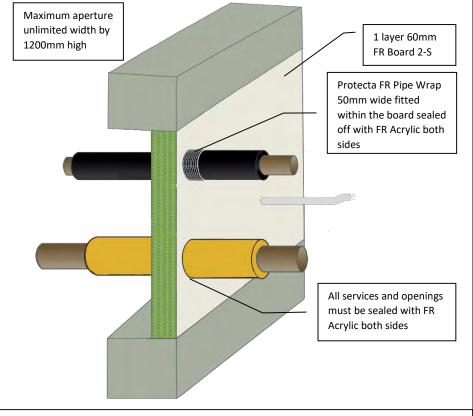
Fire Classification El 60 Sound Reduction 29 dB

List of services - Page 2 of 2

| Type of Services   | Size of Services  | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Collars or Coat Back  |
|--|-------------------|-----------------------|--|----------------|---|
| Cables   | ≤ Ø21mm per cable | -                     | -  | -              | None  |
| Cables single or bundled, with or without perforated cable trays and ladders | ≤ Ø80mm per cable | -                     | -  | -              | 150mm each side with 300μ WFT<br>Protecta Service Coat FR-1 |
|  | ≤ Ø324mm per pipe | -                     | 20 - 30mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -   |
| Steel pipes  | ≤ Ø40mm per pipe  | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -   |
|  | ≤ Ø219mm per pipe | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -   |
| Copper pipes   | ≤ Ø54mm per pipe  | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -   |
| Alupex pipes   | ≤ Ø75mm per pipe  | -                     | ≥ 30mm thick x 60cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -   |
| PVC-U and PVC-C pipes  | ≤ Ø110mm per pipe | 1.9 – 6.6mm           | -  | U/C            | Protecta FR Collar 50mm high                                |
| PE, ABS and SAN+PVC pipes  | ≤ Ø110mm per pipe | 3.0 – 10.0mm          | -  | C/C            | ≤ Ø110mm with pig tail fixings                              |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The board can be positioned to either side of the construction or anywhere in between.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 6. Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.

C € Protecta



#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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#### MIXED SERVICE APERTURE

Fire Classification E 120 Sound Reduction 29 dB

Installation details - Page 1 of 2

**Products** Pro

Protecta FR Board Protecta FR Acrylic Protecta FR Pipe Wrap

Construction

Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m<sup>3</sup>

#### Services

- 1. Cables
- 2. Steel pipes
- Copper pipes
- 4. Alupex pipes

For full specification see page 2.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

#### Durability

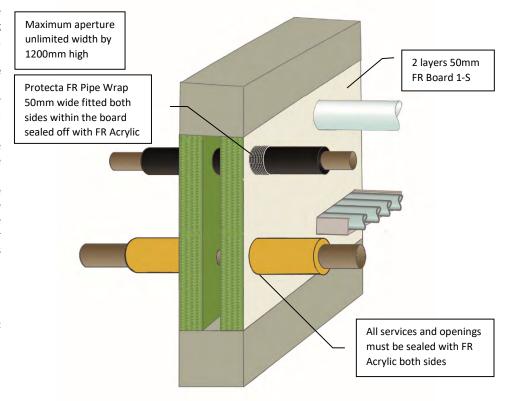
 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ .

Scale: Drawn by & date: K.B. 7/4/19

Fire Classification E 120 Sound Reduction 29 dB

| Type of Services | Size of Services  | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps           |
|------------------|-------------------|-----------------------|--|----------------|----------------------|
| Cables           | ≤ Ø21mm per cable | -                     | -  | ı              | None                 |
| Steel pipes      | ≤ Ø165mm per pipe | -                     | 9 - 25mm thick continuous elastomeric or PE                | C/U            | 1 layer of 50mm wide |
|                  | ≤ Ø324mm per pipe | -                     | 30mm thick continuous stone wool ≥ 80kg/m³                 | C/U            | -                    |
|                  | ≤ Ø40mm per pipe  | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                    |
|                  | ≤ Ø219mm per pipe | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                    |
| Copper pipes     | ≤ Ø54mm per pipe  | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                    |
| Alupex pipes     | ≤ Ø75mm per pipe  | -                     | ≥ 30mm thick x 60cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -                    |

- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.



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## **MIXED SERVICE APERTURE**

Fire Classification El 60 Sound Reduction 52 dB

## Installation details - Page 1 of 4

**Products** Protecta FR Board

Protecta FR Acrylic Protecta FR Pipe Wrap

**Construction** Minimum wall thickness of 100

mm and comprise concrete, aerated concrete or masonry, with a density of  $\geq 650 \text{ kg/m}^3$ 

#### Services

- 1. Cables, with or without cable trays
- 2. Steel pipes
- 3. Copper pipes
- . Alupex pipes
- Plastic pipes
- 6. Composite pipes
- . Conduits
- 3. Ventilation ducts

For full specification see pages 2 - 4.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

#### Durability

 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ 

Scale: Drawn by & date: K.B. 16/3/19

Fire Classification El 60 Sound Reduction 52 dB

| Type of Services                             | Size of Services    | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|--|---------------------|-----------------------|--|----------------|-----------------------------------|
| Cables, single or bundled, with or w/o trays | ≤ Ø80mm per cable   | -                     | -  | -              | -                                 |
| Unsheathed cables/wires, with or w/o trays   | ≤ 185mm² per wire   | -                     | -  | -              | -                                 |
| Steel or PVC conduits, with or w/o trays     | ≤ Ø16mm per conduit | -                     | -  | C/U            | -                                 |
|  | ≤ Ø22mm per pipe    | -                     | None   | C/U            | -                                 |
|  | ≤ Ø40mm per pipe    | -                     | 13mm thick continuous elastomeric or PE                    | U/U            | 1 layer of 50mm wide both sides   |
|  | ≤ Ø165mm per pipe   | -                     | 13 - 32mm thick continuous elastomeric or PE               | U/U            | 2 layers of 50mm wide both sides  |
| Steel pipes                                  | ≤ Ø324mm per pipe   | -                     | 32 - 50mm thick continuous elastomeric or PE               | C/U            | 3 layers of 50mm wide both sides  |
|  | ≤ Ø324mm per pipe   | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -                                 |
|  | ≤ Ø40mm per pipe    | -                     | ≥ 20mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø219mm per pipe   | -                     | ≥ 30mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø6mm per pipe     | -                     | None   | C/C            | -                                 |
| Copper pipes                                 | ≤ Ø54mm per pipe    | -                     | 9 - 25mm thick continuous elastomeric or PE                | C/C            | 2 layers of 50mm wide both sides  |
|  | ≤ Ø54mm per pipe    | -                     | ≥ 20mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|  | ≤ Ø20mm per pipe    | -                     | None   | C/C            | -                                 |
| Alupex pipes                                 | ≤ Ø75mm per pipe    | -                     | 9 - 25mm thick continuous elastomeric or PE                | C/C            | 2 layers of 50mm wide both sides  |
|  | ≤ Ø75mm per pipe    | -                     | ≥ 20mm thick x 500mm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|  | ≤ Ø32mm per pipe    | 1.0-2.4mm             | -  | U/C            | None                              |
|  | ≤ Ø40mm per pipe    | 1.9-3.0mm             | -  | U/U            | 1 layer of 50mm wide both sides   |
|  | ≤ Ø110mm per pipe   | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide both sides  |
| PVC-U & PVC-C pipes                          | ≤ Ø125mm per pipe   | 3.7-7.4mm             | -  | U/C            | 3 layers of 50mm wide both sides  |
|  | ≤ Ø160mm per pipe   | 9.5mm                 | -  | U/C            | 4 layers of 50mm wide both sides  |
|  | ≤ Ø315mm per pipe   | 7.7-12.1mm            | -  | C/C            | 10 layers of 50mm wide both sides |
|  | ≤ Ø400mm per pipe   | 9.8-15.3mm            | -  | C/C            | 16 layers of 50mm wide both sides |

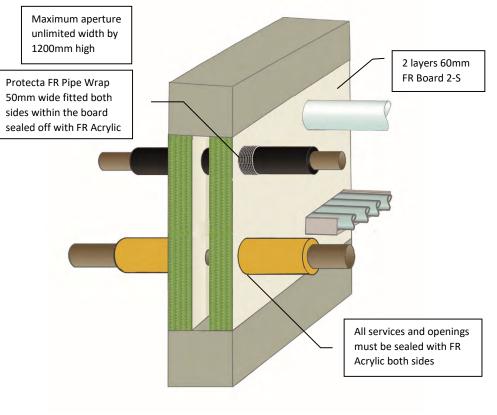
Fire Classification El 60 Sound Reduction 52 dB

| Type of Services               | Size of Services           | Pipe wall thicknesses | Pipe Insulation | Pipe<br>config | Pipe Wraps                       |
|--------------------------------|----------------------------|-----------------------|-----------------|----------------|----------------------------------|
|                                | ≤ Ø32mm per pipe           | 2.0-3.0mm             | -               | U/C            | None                             |
|                                | ≤ Ø40mm per pipe           | 2.4-3.7mm             | -               | U/U            | 1 layer of 50mm wide both sides  |
| PE, ABS and SAN+PVC pipes      | ≤ Ø110mm per pipe          | 4.2-10.0mm            | -               | U/C            | 2 layers of 50mm wide both sides |
|                                | ≤ Ø125mm per pipe          | 4.8-12.0mm            | -               | U/C            | 3 layers of 50mm wide both sides |
|                                | ≤ Ø160mm per pipe          | 14.6mm                | -               | U/C            | 4 layers of 50mm wide both sides |
|                                | ≤ Ø32mm per pipe           | 1.8-2.2mm             | -               | U/C            | None                             |
|                                | ≤ Ø40mm per pipe           | 1.8-5.5mm             | -               | U/U            | 1 layer of 50mm wide both sides  |
| PP pipes                       | ≤ Ø110mm per pipe          | 2.7-15.1mm            | -               | U/U            | 2 layers of 50mm wide both sides |
|                                | ≤ Ø125mm per pipe          | 3.1-17.1mm            | -               | U/C            | 3 layers of 50mm wide both sides |
|                                | ≤ Ø160mm per pipe          | 21.9mm                | -               | U/C            | 4 layers of 50mm wide both sides |
|                                | ≤ Ø25mm per pipe           | -                     | -               | C/C            | None                             |
| PEX pipe-in-pipes              | ≤ Ø54mm per pipe           | -                     | -               | C/C            | 2 layers of 50mm wide both sides |
|                                | ≤ Ø25mm in bundles ≤ Ø50mm | -                     | -               | C/C            | 2 layers of 50mm wide both sides |
| Aquatherm Green SDR9 pipes     | Ø32mm per pipe             | -                     | -               | C/C            | 1 layer of 50mm wide both sides  |
| Aduatiieiiii Greeii SDK9 pipes | ≤ Ø110mm per pipe          | -                     | -               | C/C            | 2 layers of 50mm wide both sides |
| BluePower pipes                | ≤ Ø50mm per pipe           | -                     | -               | U/U            | 2 layers of 50mm wide both sides |
| Bluerowei pipes                | ≤ Ø110mm per pipe          | -                     | -               | C/U            | 2 layers of 50mm wide both sides |
| Geberit Silent-PP pipes        | ≤ Ø50mm per pipe           | -                     | -               | U/U            | 2 layers of 50mm wide both sides |
| Gebent Shent-FF pipes          | ≤ Ø110mm per pipe          | -                     | -               | U/C            | 2 layers of 50mm wide both sides |
|                                | ≤ Ø50mm per pipe           | -                     | -               | U/U            | 2 layers of 50mm wide both sides |
| Polo-Kal NG pipes              | ≤ Ø110mm per pipe          | -                     | -               | U/C            | 2 layers of 50mm wide both sides |
| FOID-Rai NO pipes              | Ø125mm per pipe            | -                     | -               | U/C            | 4 layers of 50mm wide both sides |
|                                | Ø160mm per pipe            | -                     | -               | U/C            | 6 layers of 50mm wide both sides |

Fire Classification El 60 Sound Reduction 52 dB

| Type of Services                    | Size of Services          | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                       |
|-------------------------------------|---------------------------|-----------------------|--|----------------|----------------------------------|
|                                     | ≤ Ø50mm per pipe          | -                     | -  | U/U            | 2 layers of 50mm wide both sides |
| Pohau Pauniana Plus ninos           | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide both sides |
| Rehau Raupiano Plus pipes           | Ø125mm per pipe           | -                     | -  | U/C            | 4 layers of 50mm wide both sides |
|                                     | Ø160mm per pipe           | -                     | -  | U/C            | 6 layers of 50mm wide both sides |
| Wavin SiTech pipes                  | ≤ Ø50mm per pipe          | -                     | -  | U/U            | 2 layers of 50mm wide both sides |
|                                     | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide both sides |
| Conduits of PVC-U & PVC-C pipes     | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide both sides |
| Conduits of PE, ABS & SAN+PVC pipes | ≤ Ø110mm w/cables ≤ Ø14mm | 4.2-10.0mm            | -  | U/C            | 2 layers of 50mm wide both sides |
| Conduits of PP pipe                 | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-15.1mm            | -  | U/C            | 2 layers of 50mm wide both sides |
|                                     | ≤ Ø400mm                  | -                     | ≥ 30mm thick x 20cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |
| Ventilation ducts                   | ≤ Ø1250mm                 | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |
|                                     | ≤ 1200mm high x 1700mm w  | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |

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- Protecta® FR Coating and Protecta® FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 30mm between the boards.
- 4. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta® FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- Protecta® FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except pipes where pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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#### MIXED SERVICE APERTURE

Fire Classification El 120 Sound Reduction 52 dB

Installation details - Page 1 of 3

**Products** 

Protecta FR Board Protecta FR Acrylic Protecta FR Pipe Wrap

Construction

Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m<sup>3</sup>

#### Services

- 1. Cables, with or without cable trays
- 2. Steel pipes
- 3. Copper pipes
- 4. Alupex pipes
- Plastic pipes
- 6. Composite pipes
- 7. Conduits
- Ventilation ducts

For full specification see pages 2 - 3.

#### Indoor air comfort test results

- French A+ Complies
- BREEAM-NOR Complies
- DIBt Complies
- M1 Protocol Complies

### Durability

 $Y_1$  - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exposure to rain. Includes lower classes  $Y_2$ ,  $Z_1$  and  $Z_2$ .

Scale: NTS

Drawn by & date: K.B. 16/3/19

Fire Classification El 120 Sound Reduction 52 dB

| Type of Services                             | Size of Services                   | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|--|------------------------------------|-----------------------|--|----------------|-----------------------------------|
| Cables, single or bundled                    | ≤ Ø21mm per cable                  | -                     | -  | -              | -                                 |
|  | ≤ Ø21mm cables in bundles ≤ Ø100mm | -                     | -  | -              | -                                 |
|  | ≤ Ø16mm PVC conduits               | -                     | -  | C/U            | -                                 |
| Cables in tied bundles and conduits on trays | ≤ 200 mm ladders                   | -                     | -  | -              | -                                 |
|  | ≤ 500 mm non perforated trays      | -                     | -  | -              | -                                 |
|  | ≤ Ø40mm per pipe                   | -                     | 13mm thick continuous elastomeric or PE                    | U/U            | 1 layer of 50mm wide both sides   |
| Steel pipes                                  | ≤ Ø324mm per pipe                  | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | •                                 |
| Steel pipes                                  | ≤ Ø40mm per pipe                   | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/U            | -                                 |
|  | ≤ Ø219mm per pipe                  | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø12mm per pipe                   | -                     | 9mm thick continuous elastomeric or PE                     | C/C            | 2 layers of 50mm wide both sides  |
| Copper pipes                                 | ≤ Ø54mm per pipe                   | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -                                 |
|  | ≤ Ø54mm per pipe                   | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø20mm per pipe                   | -                     | None   | C/C            | -                                 |
| Alupex pipes                                 | ≤ Ø75mm per pipe                   | -                     | 9 - 25mm thick continuous elastomeric or PE                | C/C            | 2 layers of 50mm wide both sides  |
| Alupex pipes                                 | ≤ Ø16mm per pipe                   | -                     | ≥ 20mm thick x 60cm long stone wool ≥ 80 kg/m³ both sides  | U/C            | -                                 |
|  | ≤ Ø75mm per pipe                   | -                     | ≥ 30mm thick x 60cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -                                 |
|  | ≤ Ø40mm per pipe                   | 1.9-3.0mm             | -  | U/U            | 1 layer of 50mm wide both sides   |
|  | ≤ Ø110mm per pipe                  | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide both sides  |
|  | ≤ Ø125mm per pipe                  | 4.7-7.4mm             | -  | U/C            | 4 layers of 50mm wide both sides  |
| DVC II 8. DVC C pipes                        | ≤ Ø160mm per pipe                  | 4.0-9.5mm             | -  | U/C            | 6 layers of 50mm wide both sides  |
| PVC-U & PVC-C pipes                          | ≤ Ø200mm per pipe                  | 5.0-10.2mm            | -  | C/C            | 10 layers of 75mm wide both sides |
|  | ≤ Ø250mm per pipe                  | 6.0-11.0mm            | -  | C/C            | 10 layers of 75mm wide both sides |
|  | ≤ Ø315mm per pipe                  | 7.7-12.1mm            | -  | C/C            | 10 layers of 75mm wide both sides |
|  | ≤ Ø400mm per pipe                  | 9.8-15.3mm            | -  | C/C            | 16 layers of 75mm wide both sides |

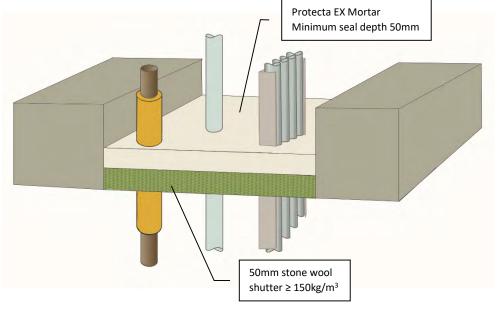
Fire Classification El 120 Sound Reduction 52 dB

| Type of Services          | Size of Services           | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                       |
|---------------------------|----------------------------|-----------------------|--|----------------|----------------------------------|
|                           | ≤ Ø40mm per pipe           | 2.4-3.7mm             | -  | U/U            | 1 layer of 50mm wide both sides  |
|                           | ≤ Ø40mm per pipe           | 3.8-4.6mm             | -  | U/C            | 1 layer of 50mm wide both sides  |
| PE, ABS and SAN+PVC pipes | ≤ Ø110mm per pipe          | 3.4-10.0mm            | -  | U/C            | 2 layers of 50mm wide both sides |
|                           | ≤ Ø125mm per pipe          | 3.9-7.4mm             | -  | U/C            | 4 layers of 50mm wide both sides |
|                           | ≤ Ø160mm per pipe          | 4.9-9.5mm             | -  | U/C            | 6 layers of 50mm wide both sides |
|                           | ≤ Ø40mm per pipe           | 1.8-5.5mm             | -  | U/U            | 1 layer of 50mm wide both sides  |
| RR pines                  | ≤ Ø110mm per pipe          | 2.7-10.0mm            | -  | C/C            | 2 layers of 50mm wide both sides |
| PP pipes                  | ≤ Ø125mm per pipe          | 3.1-11.4mm            | -  | C/C            | 4 layers of 50mm wide both sides |
|                           | ≤ Ø160mm per pipe          | 4.9-14.6mm            | -  | C/C            | 6 layers of 50mm wide both sides |
| PEX pipe-in-pipes         | ≤ Ø54mm per pipe           | -                     | -  | C/C            | 2 layers of 50mm wide both sides |
| Cabarit Silant BB pinas   | ≤ Ø50mm per pipe           | -                     | -  | U/U            | 2 layers of 50mm wide both sides |
| Geberit Silent-PP pipes   | ≤ Ø110mm per pipe          | -                     | -  | U/C            | 2 layers of 50mm wide both sides |
|                           | ≤ Ø50mm per pipe           | -                     | -  | U/U            | 2 layers of 50mm wide both sides |
| Polo-Kal NG pipes         | ≤ Ø110mm per pipe          | -                     | -  | U/C            | 2 layers of 50mm wide both sides |
| Polo-Kai NG pipes         | Ø125mm per pipe            | -                     | -  | U/C            | 4 layers of 50mm wide both sides |
|                           | Ø160mm per pipe            | -                     | -  | U/C            | 6 layers of 50mm wide both sides |
|                           | ≤ Ø50mm per pipe           | -                     | -  | U/U            | 2 layers of 50mm wide both sides |
| Pohau Pauniano Plus ninos | ≤ Ø110mm per pipe          | -                     | -  | U/C            | 2 layers of 50mm wide both sides |
| Rehau Raupiano Plus pipes | Ø125mm per pipe            | -                     | -  | U/C            | 4 layers of 50mm wide both sides |
|                           | Ø160mm per pipe            | -                     | -  | U/C            | 6 layers of 50mm wide both sides |
| Vantilation ducts         | ≤ Ø400mm                   | -                     | ≥ 30mm thick x 20cm long stonewool mat ≥80kg/m³ both sides | ı              | Protecta FR Damper               |
| Ventilation ducts         | ≤ 600mm high x 1000mm wide | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ both sides | -              | Protecta FR Damper               |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process.
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



Maximum aperture 1200 x 2400mm



#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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## MIXED SERVICE APERTURE

Fire Classification El 60 Sound Reduction 48 dB

## Installation details - Page 1 of 2

Products Protecta EX Mortar
Stone wool shutter

**Construction** Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

### Services

- 1. Cables and cable trays
- 2. Steel pipes
- 3. Copper pipes
- 4. Alupex pipes
- 5. Plastic pipes

For full specification see page 2.

#### Indoor air comfort test results

- EMICODE EC 1PLUS Complies
- BREEAM-NOR Complies
- DIBt Complies
- LEED Complies

#### Durability

 $Z_2$  - Intended for use in internal conditions with humidity classes other than  $Z_1$ , excluding temperatures below 0 °C.

Scale: Drawn by & date: **NTS** K.B. 17/3/19

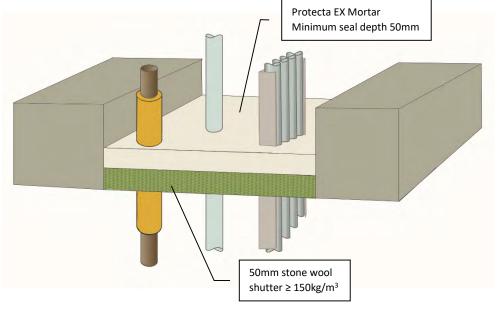
Fire Classification El 60 Sound Reduction 48 dB

| Type of Services                         | Size of Services                 | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps |
|--|----------------------------------|-----------------------|--|----------------|------------|
|  | ≤ Ø21mm cables single or bundled | -                     | -  | -              | -          |
| Cables, with or without trays or ladders | ≤ Ø16mm PVC conduits             | -                     | -  | C/U            | -          |
|  | ≤ Ø17mm unsheathed cables/wires  | -                     | -  | -              | -          |
|  | ≤ Ø16mm per pipe                 | -                     | None   | C/U            | -          |
| Steel pines                              | ≤ Ø324mm per pipe                | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -          |
| Steel pipes                              | ≤ Ø40mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -          |
|  | ≤ Ø219mm per pipe                | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -          |
|  | Ø6mm per pipe                    | -                     | None   | C/C            | -          |
| Copper pipes                             | ≤ Ø54mm per pipe                 | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/C            | -          |
|  | ≤ Ø54mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/C            | -          |
| Alumay min as                            | ≤ Ø20mm per pipe                 | -                     | None   | C/C            | -          |
| Alupex pipes                             | ≤ Ø75mm per pipe                 | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -          |
| PVC-U and PVC-C pipes                    | ≤ Ø40mm per pipe                 | 1.6-3.0mm             | -  | U/C            | None       |
| PEX pipe-in-pipes                        | ≤ Ø25mm per pipe                 | -                     | -  | C/C            | None       |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a stone wool shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal – any small openings should be sealed with Protecta® FR Acrylic
- Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process.
- Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.



Maximum aperture 1200 x 2400mm



#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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### MIXED SERVICE APERTURE

Fire Classification E 120 Sound Reduction 48 dB

## Installation details - Page 1 of 2

Products Protecta EX Mortar Stone wool shutter

**Construction** Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

### Services

- 1. Cables and cable trays
- 2. Steel pipes
- 3. Copper pipes
- 4. Alupex pipes
- 5. Plastic pipes

For full specification see page 2.

#### Indoor air comfort test results

- EMICODE EC 1PLUS Complies
- BREEAM-NOR Complies
- DIBt Complies
- LEED Complies

#### Durability

 $Z_2$  - Intended for use in internal conditions with humidity classes other than  $Z_1$ , excluding temperatures below 0 °C.

| Scale: | Drawn by & date: |
|--------|------------------|
| NTS    | K.B. 17/3/19     |

Fire Classification E 120 Sound Reduction 48 dB

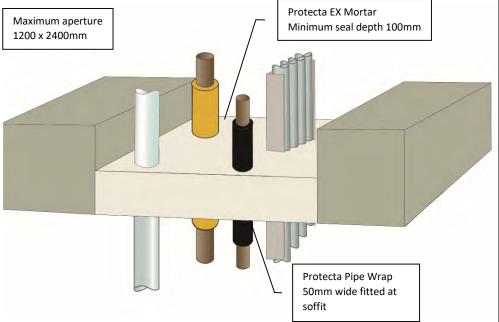
| Type of Services              | Size of Services                 | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps |
|-------------------------------|----------------------------------|-----------------------|--|----------------|------------|
|                               | ≤ Ø21mm cables single or bundled | -                     | -  | -              | -          |
| Cables, with or without trays | ≤ Ø16mm PVC conduits             | -                     | -  | C/U            | -          |
|                               | ≤ Ø24mm unsheathed cables/wires  | -                     | -  | -              | -          |
|                               | ≤ Ø16mm per pipe                 | -                     | None   | C/U            | -          |
| Stool pines                   | ≤ Ø324mm per pipe                | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -          |
| Steel pipes                   | ≤ Ø40mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -          |
|                               | ≤ Ø219mm per pipe                | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -          |
|                               | ≤ Ø15mm per pipe                 | -                     | None   | C/C            | -          |
| Copper pipes                  | ≤ Ø54mm per pipe                 | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/C            | -          |
|                               | ≤ Ø54mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/C            | -          |
| Alunay pinas                  | ≤ Ø20mm per pipe                 | -                     | None   | C/C            | -          |
| Alupex pipes                  | ≤ Ø75mm per pipe                 | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -          |
| PVC-U and PVC-C pipes         | ≤ Ø40mm per pipe                 | 1.6-3.0mm             | -  | U/C            | None       |
| PEX pipe-in-pipes             | ≤ Ø25mm per pipe                 | -                     | -  | C/C            | None       |

- 1. Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 5. Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 6. Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process.
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.









#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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## MIXED SERVICE APERTURE

Fire Classification El 60 Sound Reduction 48 dB

Installation details - Page 1 of 4

**Products** Protecta EX Mortar

Protecta FR Pipe Wrap

Construction Minimum floor thickness of 150

> mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>

#### Services

- Cables, with or without cable trays
- Steel pipes
- Copper pipes
- Alupex pipes
- Plastic pipes
- Composite pipes
- Conduits
- Ventilation ducts

For full specification see pages 2 - 4.

#### Indoor air comfort test results

- EMICODE EC 1PLUS Complies
- BREEAM-NOR Complies
- DIBt Complies
- LEED Complies

#### Durability

Z<sub>2</sub> - Intended for use in internal conditions with humidity classes other than Z<sub>1</sub>, excluding temperatures below 0 °C.

K.B. 17/3/19 NTS

Fire Classification El 60 Sound Reduction 48 dB

| Type of Services                         | Size of Services                 | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|--|----------------------------------|-----------------------|--|----------------|-----------------------------------|
|  | ≤ Ø80mm cables single or bundled | -                     | -  | -              | -                                 |
| Cables, with or without trays or ladders | ≤ Ø16mm PVC conduits             | -                     | -  | C/U            | -                                 |
|  | ≤ Ø17mm unsheathed cables/wires  | -                     | -  | -              | -                                 |
|  | ≤ Ø16mm per pipe                 | -                     | None   | C/U            | -                                 |
|  | ≤ Ø40mm per pipe                 | -                     | 13mm thick continuous elastomeric or phenolic              | C/U            | 1 layer of 50mm wide soffit side  |
|  | ≤ Ø40mm per pipe                 | -                     | 14 - 25mm thick continuous elastomeric or phenolic         | C/U            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø165mm per pipe                | -                     | 14 - 19mm thick continuous elastomeric or phenolic         | C/U            | 1 layer of 50mm wide soffit side  |
| Steel pipes                              | ≤ Ø324mm per pipe                | -                     | 25mm thick continuous elastomeric or phenolic              | C/U            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø324mm per pipe                | -                     | 26 - 50mm thick continuous elastomeric or phenolic         | C/U            | 3 layers of 50mm wide soffit side |
|  | ≤ Ø324mm per pipe                | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -                                 |
|  | ≤ Ø40mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø219mm per pipe                | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | Ø6mm per pipe                    | -                     | None   | C/C            | -                                 |
|  | ≤ Ø12mm per pipe                 | -                     | 9mm thick continuous elastomeric or phenolic               | C/C            | 2 layers of 50mm wide soffit side |
| Copper pipes                             | ≤ Ø54mm per pipe                 | -                     | 13 - 25mm thick continuous elastomeric or phenolic         | C/C            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø54mm per pipe                 | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/C            | -                                 |
|  | ≤ Ø54mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|  | ≤ Ø20mm per pipe                 | -                     | None   | C/C            | -                                 |
| Alupex pipes                             | ≤ Ø75mm per pipe                 | -                     | 9 - 25mm thick continuous elastomeric or phenolic          | C/C            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø75mm per pipe                 | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -                                 |

Fire Classification El 60 Sound Reduction 48 dB

| Type of Services           | Size of Services  | Pipe wall thicknesses | Pipe Insulation | Pipe config | Pipe Wraps                        |
|----------------------------|-------------------|-----------------------|-----------------|-------------|-----------------------------------|
|                            | ≤ Ø40mm per pipe  | 1.6-3.0mm             | -               | U/C         | None                              |
|                            | ≤ Ø40mm per pipe  | 1.8-3.7mm             | -               | U/U         | 1 layer of 50mm wide soffit side  |
| DVC II and DVC Coins       | ≤ Ø110mm per pipe | 1.9-6.6mm             | -               | U/C         | 2 layers of 50mm wide soffit side |
| PVC-U and PVC-C pipes      | ≤ Ø125mm per pipe | 3.5-7.4mm             | -               | U/C         | 4 layers of 50mm wide soffit side |
|                            | ≤ Ø160mm per pipe | 4.5-9.5mm             | -               | C/C         | 6 layers of 50mm wide soffit side |
|                            | ≤ Ø160mm per pipe | 9.5mm                 | -               | U/C         | 6 layers of 50mm wide soffit side |
|                            | ≤ Ø40mm per pipe  | 1.8-4.4mm             | -               | U/C         | None                              |
|                            | ≤ Ø40mm per pipe  | 2.4-3.7mm             | -               | U/U         | 1 layer of 50mm wide soffit side  |
| DE ADS and SANI-DVC nines  | ≤ Ø110mm per pipe | 2.5-10.0mm            | -               | U/C         | 2 layers of 50mm wide soffit side |
| PE, ABS and SAN+PVC pipes  | ≤ Ø125mm per pipe | 3.9-11.4mm            | -               | U/C         | 4 layers of 50mm wide soffit side |
|                            | ≤ Ø160mm per pipe | 4.9-14.6mm            | -               | U/C         | 6 layers of 50mm wide soffit side |
|                            | ≤ Ø250mm per pipe | 7.8mm                 | -               | C/C         | 7 layers of 75mm wide soffit side |
|                            | ≤ Ø40mm per pipe  | 1.8-4.4mm             | -               | U/C         | None                              |
|                            | ≤ Ø40mm per pipe  | 1.8-5.5mm             | -               | U/U         | 1 layer of 50mm wide soffit side  |
| PP pipes                   | ≤ Ø110mm per pipe | 1.9-6.3mm             | -               | U/C         | 2 layers of 50mm wide soffit side |
|                            | ≤ Ø125mm per pipe | 3.4-11.4mm            | -               | U/C         | 4 layers of 50mm wide soffit side |
|                            | ≤ Ø160mm per pipe | 4.9-14.6mm            | -               | U/C         | 6 layers of 50mm wide soffit side |
| PEX pipe-in-pipes          | ≤ Ø25mm per pipe  | -                     | -               | C/C         | None                              |
| PEX pipe-iii-pipes         | ≤ Ø54mm per pipe  | -                     | -               | C/C         | 2 layers of 50mm wide soffit side |
| Aquatherm Creen CDDO pines | Ø32mm per pipe    | -                     | -               | C/C         | 1 layer of 50mm wide soffit side  |
| Aquatherm Green SDR9 pipes | ≤ Ø110mm per pipe | -                     | -               | C/C         | 2 layers of 50mm wide soffit side |
| Cabarit Cilant DD nines    | ≤ Ø50mm per pipe  | -                     | -               | U/U         | 2 layers of 50mm wide soffit side |
| Geberit Silent-PP pipes    | ≤ Ø110mm per pipe | -                     | -               | U/C         | 2 layers of 50mm wide soffit side |

Fire Classification El 60 Sound Reduction 48 dB

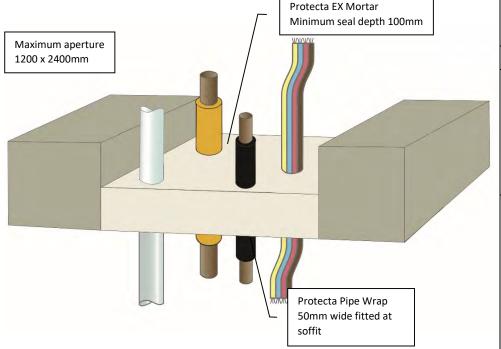
| Type of Services                    | Size of Services          | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|-------------------------------------|---------------------------|-----------------------|--|----------------|-----------------------------------|
|                                     | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide soffit side |
| Polo-Kal NG pipes                   | Ø125mm per pipe           | -                     | -  | U/C            | 4 layers of 50mm wide soffit side |
|                                     | Ø160mm per pipe           | -                     | -  | U/C            | 6 layers of 50mm wide soffit side |
|                                     | ≤ Ø50mm per pipe          | -                     | -  | U/U            | 2 layers of 50mm wide soffit side |
| Robau Raupiano Plus pinos           | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide soffit side |
| Rehau Raupiano Plus pipes           | Ø125mm per pipe           | -                     | -  | U/C            | 4 layers of 50mm wide soffit side |
|                                     | Ø160mm per pipe           | -                     | -  | U/C            | 6 layers of 50mm wide soffit side |
| Wayin SiTash nings                  | ≤ Ø50mm per pipe          | -                     | -  | U/U            | 2 layers of 50mm wide soffit side |
| Wavin SiTech pipes                  | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide soffit side |
| Conduits of PVC-U & PVC-C pipes     | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide soffit side |
| Conduits of PE, ABS & SAN+PVC pipes | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-10.0mm            | -  | U/C            | 2 layers of 50mm wide soffit side |
| Conduits of PP pipe                 | ≤ Ø110mm w/cables ≤ Ø14mm | 3.4-6.3mm             | -  | U/C            | 2 layers of 50mm wide soffit side |
|                                     | ≤ Ø400mm                  | -                     | ≥ 30mm thick x 15cm long stonewool mat ≥80kg/m³ top side | -              | Protecta FR Damper                |
| Ventilation ducts                   | ≤ Ø1000mm                 | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ top side | -              | Protecta FR Damper                |
|                                     | ≤ 1000 x 1000mm           | -                     | ≥ 30mm thick x 50cm long stonewool mat ≥80kg/m³ top side | -              | Protecta FR Damper                |

- 1. Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- 2. Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 5. Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 6. Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process.
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





C € Protecta



#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change product specifications without giving notice. All information contained in this document is given in good faith and is provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over the methods or competence of installation and of prevailing site conditions, no warranties, expressed or implied, is intended to be given as to the actual performance of the product mentioned or referred to herein and no liability whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

For all technical details on the products specified please refer to the technical data sheets that can be found on http://www.protecta.eu

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### MIXED SERVICE APERTURE

Fire Classification El 120 Sound Reduction 48 dB

Installation details - Page 1 of 4

Protecta EX Mortar **Products** 

Protecta FR Pipe Wrap

Minimum floor thickness of 150 Construction

> mm and comprise aerated concrete or concrete with a minimum density of 650kg/m<sup>3</sup>

#### Services

- 1. Cables
- Steel pipes
- Copper pipes
- Alupex pipes
- Plastic pipes
- Composite pipes
- Conduits
- Ventilation ducts

For full specification see pages 2 - 4.

#### Indoor air comfort test results

- EMICODE EC 1PLUS Complies
- BREEAM-NOR Complies
- DIBt Complies
- LEED Complies

#### Durability

Z<sub>2</sub> - Intended for use in internal conditions with humidity classes other than Z<sub>1</sub>, excluding temperatures below 0 °C.

Drawn by & date: Scale: NTS K.B. 17/3/19

Fire Classification El 120 Sound Reduction 48 dB

| Type of Services                    | Size of Services                   | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|-------------------------------------|------------------------------------|-----------------------|--|----------------|-----------------------------------|
| Cobles in hied bundles              | ≤ Ø21mm cables in bundles ≤ Ø100mm | -                     | -  | -              | -                                 |
| Cables in tied bundles              | ≤ Ø16mm PVC conduits               | -                     | -  | C/U            | -                                 |
|                                     | ≤ Ø16mm per pipe                   | -                     | None   | C/U            | -                                 |
|                                     | ≤ Ø40mm per pipe                   | -                     | 13mm thick continuous elastomeric or phenolic              | C/U            | 1 layer of 50mm wide soffit side  |
|                                     | ≤ Ø40mm per pipe                   | -                     | 14 - 25mm thick continuous elastomeric or phenolic         | C/U            | 2 layers of 50mm wide soffit side |
|                                     | ≤ Ø165mm per pipe                  | -                     | 14 - 19mm thick continuous elastomeric or phenolic         | C/U            | 1 layer of 50mm wide soffit side  |
| Steel pipes                         | ≤ Ø324mm per pipe                  | -                     | 25mm thick continuous elastomeric or phenolic              | C/U            | 2 layers of 50mm wide soffit side |
|                                     | ≤ Ø324mm per pipe                  | -                     | 26 - 50mm thick continuous elastomeric or phenolic         | C/U            | 3 layers of 50mm wide soffit side |
|                                     | ≤ Ø324mm per pipe                  | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -                                 |
|                                     | ≤ Ø40mm per pipe                   | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|                                     | ≤ Ø219mm per pipe                  | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|                                     | Ø6mm per pipe                      | -                     | None   | C/C            | -                                 |
| Conner pines                        | ≤ Ø12mm per pipe                   | -                     | 9mm thick continuous elastomeric or phenolic               | C/C            | 2 layers of 50mm wide soffit side |
| Copper pipes                        | ≤ Ø54mm per pipe                   | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/C            | -                                 |
|                                     | ≤ Ø54mm per pipe                   | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|                                     | ≤ Ø20mm per pipe                   | -                     | None   | C/C            | -                                 |
| Cables in tied bundles  Steel pipes | ≤ Ø16mm per pipe                   | -                     | 9mm thick continuous elastomeric or phenolic               | C/C            | 2 layers of 50mm wide soffit side |
|                                     | ≤ Ø75mm per pipe                   | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -                                 |

Fire Classification El 120 Sound Reduction 48 dB

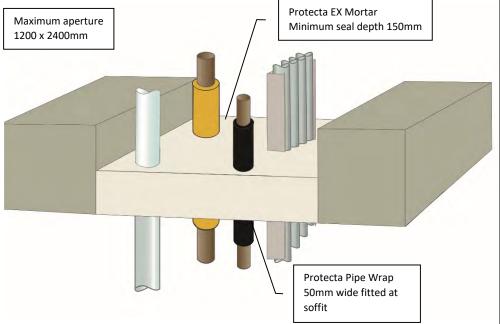
| Type of Services  | Size of Services  | Pipe wall thicknesses | Pipe Insulation | Pipe<br>config | Pipe Wraps                        |
|---|-------------------|-----------------------|-----------------|----------------|-----------------------------------|
|   | ≤ Ø40mm per pipe  | 1.6-3.0mm             | -               | U/C            | None                              |
| VC-U and PVC-C pipes  E, ABS and SAN+PVC pipes  P pipes | ≤ Ø40mm per pipe  | 1.8-3.7mm             | -               | U/U            | 1 layer of 50mm wide soffit side  |
| PVC-U and PVC-C pipes                                   | ≤ Ø110mm per pipe | 1.9-6.6mm             | -               | U/C            | 2 layers of 50mm wide soffit side |
|   | ≤ Ø125mm per pipe | 3.5-7.4mm             | -               | U/C            | 4 layers of 50mm wide soffit side |
|   | ≤ Ø160mm per pipe | 4.5mm                 | -               | C/C            | 6 layers of 50mm wide soffit side |
|   | ≤ Ø40mm per pipe  | 1.8-4.4mm             | -               | U/C            | None                              |
|   | ≤ Ø40mm per pipe  | 2.4-3.7mm             | -               | U/U            | 1 layer of 50mm wide soffit side  |
| DE ADS and SANUDIVS with a                              | ≤ Ø110mm per pipe | 2.5-10.0mm            | -               | U/C            | 2 layers of 50mm wide soffit side |
| PE, ABS and SAN+PVC pipes                               | ≤ Ø125mm per pipe | 3.9-11.4mm            | -               | U/C            | 4 layers of 50mm wide soffit side |
|   | ≤ Ø160mm per pipe | 4.9-14.6mm            | -               | U/C            | 6 layers of 50mm wide soffit side |
|   | ≤ Ø250mm per pipe | 7.8mm                 | -               | C/C            | 7 layers of 75mm wide soffit side |
|   | ≤ Ø40mm per pipe  | 1.8-4.4mm             | -               | U/C            | None                              |
|   | ≤ Ø40mm per pipe  | 1.8-5.5mm             | -               | U/U            | 1 layer of 50mm wide soffit side  |
| PP pipes  | ≤ Ø110mm per pipe | 1.9-6.3mm             | -               | U/C            | 2 layers of 50mm wide soffit side |
|   | ≤ Ø125mm per pipe | 3.4-11.4mm            | -               | U/C            | 4 layers of 50mm wide soffit side |
|   | ≤ Ø160mm per pipe | 4.9-14.6mm            | -               | U/C            | 6 layers of 50mm wide soffit side |
| DEV signs in signs                                      | ≤ Ø25mm per pipe  | -                     | -               | C/C            | None                              |
| PEX pipe-in-pipes                                       | ≤ Ø54mm per pipe  | -                     | -               | C/C            | 2 layers of 50mm wide soffit side |
| Aguathawa Cycon CDDO nines                              | Ø32mm per pipe    | -                     | -               | C/C            | 1 layer of 50mm wide soffit side  |
| Aquatherin Green SDK9 pipes                             | ≤ Ø110mm per pipe | -                     | -               | C/C            | 2 layers of 50mm wide soffit side |
| Cohorit Cilant DD pines                                 | ≤ Ø50mm per pipe  | -                     | -               | U/U            | 2 layers of 50mm wide soffit side |
| Gebent Shent-PP pipes                                   | ≤ Ø110mm per pipe | -                     | -               | U/C            | 2 layers of 50mm wide soffit side |

Fire Classification El 120 Sound Reduction 48 dB

| Type of Services                | Size of Services   | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config                    | Pipe Wraps                        |
|---------------------------------|--|-----------------------|--|-----------------------------------|-----------------------------------|
|                                 | ≤ Ø110mm per pipe  | -                     | -  | U/C                               | 2 layers of 50mm wide soffit side |
| Polo-Kal NG pipes               | Ø125mm per pipe  | -                     | -  | U/C                               | 4 layers of 50mm wide soffit side |
|                                 | Size of Services       thicknesses       Pipe Insulation         ≤ Ø110mm per pipe       -       -         Ø125mm per pipe       -       -         ≤ Ø50mm per pipe       -       -         ≤ Ø110mm per pipe       -       -         Ø125mm per pipe       -       -         Ø160mm per pipe       -       -         ≤ Ø50mm per pipe       -       -         ≤ Ø110mm per pipe       -       -         ≤ Ø110mm w/cables ≤ Ø14mm       2.7-6.6mm       - | -                     | U/C  | 6 layers of 50mm wide soffit side |                                   |
|                                 | ≤ Ø50mm per pipe   | -                     | -  | U/U                               | 2 layers of 50mm wide soffit side |
| Rehau Raupiano Plus pipes       | ≤ Ø110mm per pipe  | -                     | -  | U/C                               | 2 layers of 50mm wide soffit side |
|                                 | Ø125mm per pipe  | -                     | -  | U/C                               | 4 layers of 50mm wide soffit side |
|                                 | Ø160mm per pipe  | -                     | -  | U/C                               | 6 layers of 50mm wide soffit side |
| Wayin SiTash pinas              | ≤ Ø50mm per pipe   | -                     | -  | U/U                               | 2 layers of 50mm wide soffit side |
| Wavin SiTech pipes              | ≤ Ø110mm per pipe  | -                     | -  | U/C                               | 2 layers of 50mm wide soffit side |
| Conduits of PVC-U & PVC-C pipes | ≤ Ø110mm w/cables ≤ Ø14mm  | 2.7-6.6mm             | -  | U/C                               | 2 layers of 50mm wide soffit side |
| Ventilation ducts               | ≤ Ø400mm   | -                     | ≥ 30mm thick x 15cm long stonewool mat ≥80kg/m³ top side | -                                 | Protecta FR Damper                |

- Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion.
- Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system.
- 3. The seal can be positioned to either side of the construction or anywhere in between.
- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards, level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- Pour clean water into a suitable mixing vessel and pour enough mortar to obtain the required consistency. Mix well to avoid lumps. Always add the mortar to the water, do not reverse this mixing process.
- 7. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making sure that it flows into all corners and around services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the required depth.





#### **Loadbearing Properties**

Soft body impact, serviceability 500Nm. Soft body impact, safety in use 700Nm. Hard body impact serviceability 6Nm. Hard body impact, safety in use 10Nm. Concentrated load to 15kN on size up to 1500mm x1000mm (no failure), 4.85kN on sizes up to 1200mm x 2400mm.

#### Minimum separations and limitations

An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 30mm from seal edges. Services within the seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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### MIXED SERVICE APERTURE

Fire Classification El 120 Sound Reduction 48 dB

Installation details - Page 1 of 5

**Products** Protecta EX Mortar

Protecta FR Pipe Wrap

**Construction** Minimum floor thickness of 150

mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³

#### Services

- 1. Cables, with or without cable trays
- 2. Steel pipes
- Copper pipes
- 4. Alupex pipes
- Plastic pipes
- Composite pipes
- 7. Conduits
- 8. Ventilation ducts

For full specification see pages 2 - 5.

#### Indoor air comfort test results

- EMICODE EC 1PLUS Complies
- BREEAM-NOR Complies
- DIBt Complies
- LEED Complies

## Durability

 $Z_2$  - Intended for use in internal conditions with humidity classes other than  $Z_1$ , excluding temperatures below 0 °C.

**NTS** K.B. 17/3/19

Fire Classification El 120 Sound Reduction 48 dB

| Type of Services                         | Size of Services                 | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|--|----------------------------------|-----------------------|--|----------------|-----------------------------------|
|  | ≤ Ø21mm cables single or bundled | -                     | -  | -              | -                                 |
| Calabas with an with authors and add as  | ≤ Ø16mm PVC conduits             | -                     | -  | C/U            | -                                 |
| Cables, with or without trays or ladders | ≤ Ø24mm unsheathed cables/wires  | -                     | -  | -              | -                                 |
|  | ≤ 500mm wide trays or ladders    | -                     | -  | ı              | -                                 |
|  | ≤ Ø16mm per pipe                 | -                     | None   | C/U            | -                                 |
|  | ≤ Ø40mm per pipe                 | -                     | 13mm thick continuous elastomeric or phenolic              | C/U            | 1 layer of 50mm wide soffit side  |
|  | ≤ Ø40mm per pipe                 | -                     | 14 - 25mm thick continuous elastomeric or phenolic         | C/U            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø165mm per pipe                | -                     | 14 - 19mm thick continuous elastomeric or phenolic         | C/U            | 1 layer of 50mm wide soffit side  |
| Steel pipes                              | ≤ Ø324mm per pipe                | -                     | 25mm thick continuous elastomeric or phenolic              | C/U            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø324mm per pipe                | -                     | 26 - 50mm thick continuous elastomeric or phenolic         | C/U            | 3 layers of 50mm wide soffit side |
|  | ≤ Ø324mm per pipe                | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/U            | -                                 |
|  | ≤ Ø40mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | ≤ Ø219mm per pipe                | -                     | ≥ 30mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/U            | -                                 |
|  | Ø6mm per pipe                    | -                     | None   | C/C            | -                                 |
| Conner pines                             | ≤ Ø12mm per pipe                 | -                     | 9mm thick continuous elastomeric or phenolic               | C/C            | 2 layers of 50mm wide soffit side |
| Copper pipes                             | ≤ Ø54mm per pipe                 | -                     | 20 - 80mm thick continuous stone wool ≥ 80kg/m³            | C/C            | -                                 |
|  | ≤ Ø54mm per pipe                 | -                     | ≥ 20mm thick x 100cm long stone wool ≥ 80 kg/m³ both sides | C/C            | -                                 |
|  | ≤ Ø20mm per pipe                 | -                     | None   | C/C            | -                                 |
|  | ≤ Ø16mm per pipe                 | -                     | 9mm thick continuous elastomeric or phenolic               | C/C            | 2 layers of 50mm wide soffit side |
|  | ≤ Ø75mm per pipe                 | -                     | ≥ 20mm thick x 50cm long stone wool ≥ 80 kg/m³ both sides  | C/C            | -                                 |

Fire Classification El 120 Sound Reduction 48 dB

| Type of Services                                | Size of Services   | Pipe wall thicknesses | Pipe Insulation | Pipe<br>config | Pipe Wraps                         |
|---|--|-----------------------|-----------------|----------------|------------------------------------|
|   | ≤ Ø40mm per pipe   | 1.6-3.0mm             | -               | U/C            | None                               |
|   | ≤ Ø40mm per pipe   | 1.8-3.7mm             | -               | U/U            | 1 layer of 50mm wide soffit side   |
| DVC U and DVC C since                           | Size of Services       thickness         ≤ Ø40mm per pipe       1.6-3.0r         ≤ Ø40mm per pipe       1.8-3.7r         ≤ Ø110mm per pipe       1.9-6.6r         ≤ Ø125mm per pipe       3.5-7.4r         ≤ Ø160mm per pipe       4.5-9.5r         Ø 315mm per pipe       7.7mm         ≤ Ø40mm per pipe       1.8-4.4r         ≤ Ø40mm per pipe       2.4-3.7r         ≤ Ø110mm per pipe       3.4-10.0         ≤ Ø125mm per pipe       3.9-11.4r         Ø 125mm per pipe       11.4mm         Ø 140mm per pipe       8.0-12.4r         ≤ Ø160mm per pipe       4.9-14.6r | 1.9-6.6mm             | -               | U/C            | 2 layers of 50mm wide soffit side  |
| PVC-0 and PVC-C pipes                           | ≤ Ø125mm per pipe  | 3.5-7.4mm             | -               | U/C            | 4 layers of 50mm wide soffit side  |
|   | ≤ Ø160mm per pipe  | 4.5-9.5mm             | -               | U/C            | 6 layers of 50mm wide soffit side  |
|   | Ø 315mm per pipe   | 7.7mm                 |                 | Config         | 10 layers of 75mm wide soffit side |
|   | ≤ Ø40mm per pipe   | 1.8-4.4mm             | -               | U/C            | None                               |
|   | ≤ Ø40mm per pipe   | 2.4-3.7mm             | -               | U/U            | 1 layer of 50mm wide soffit side   |
|   | ≤ Ø110mm per pipe  | 2.5-10.0mm            | -               | U/C            | 2 layers of 50mm wide soffit side  |
|   | ≤ Ø110mm per pipe  | 3.4-10.0mm            | -               | U/U            | 3 layers of 75mm wide soffit side  |
| DE ADS and SANLDVC nines                        | ≤ Ø125mm per pipe  | 3.9-11.4mm            | -               | U/C            | 4 layers of 50mm wide soffit side  |
| PE, ABS and SAIN+PVC pipes                      | Ø 125mm per pipe   | 11.4mm                | -               | U/U            | 4 layers of 50mm wide soffit side  |
|   | Ø 140mm per pipe   | 8.0-12.4mm            | -               | U/U            | 6 layers of 75mm wide soffit side  |
| PVC-U and PVC-C pipes PE, ABS and SAN+PVC pipes | ≤ Ø160mm per pipe  | 4.9-14.6mm            | -               | U/U            | 4 layers of 75mm wide soffit side  |
|   | ≤ Ø160mm per pipe  | 3.9-4.8mm             | -               | U/U            | 10 layers of 75mm wide soffit side |
|   | ≤ Ø250mm per pipe  | 7.8mm                 | -               | C/C            | 7 layers of 75mm wide soffit side  |

Fire Classification El 120 Sound Reduction 48 dB

| Type of Services   | Size of Services  | Pipe wall thicknesses | Pipe Insulation | Pipe<br>config | Pipe Wraps                         |
|--|-------------------|-----------------------|-----------------|----------------|------------------------------------|
|  | ≤ Ø40mm per pipe  | 1.8-4.4mm             | -               | U/C            | None                               |
| PP pipes  PEX pipe-in-pipes  Aquatherm Green SDR9 pipes  Geberit Silent-PP pipes | ≤ Ø40mm per pipe  | 1.8-5.5mm             | -               | U/U            | 1 layer of 50mm wide soffit side   |
|  | ≤ Ø110mm per pipe | 1.9-6.3mm             | -               | U/C            | 2 layers of 50mm wide soffit side  |
|  | ≤ Ø110mm per pipe | 3.7-10.5mm            | -               | U/U            | 4 layers of 50mm wide soffit side  |
|  | ≤ Ø125mm per pipe | 3.4-11.4mm            | -               | U/C            | 4 layers of 50mm wide soffit side  |
| PP pipes   | Ø125mm per pipe   | 11.4mm                | -               | U/U            | 4 layers of 50mm wide soffit side  |
|  | Ø140mm per pipe   | 12.8mm                | -               | U/U            | 4 layers of 75mm wide soffit side  |
|  | ≤ Ø160mm per pipe | 4.9-14.6mm            | -               | U/C            | 6 layers of 50mm wide soffit side  |
|  | Ø160mm per pipe   | 14.6mm                |                 | U/U            | 4 layers of 75mm wide soffit side  |
|  | ≤ Ø200mm per pipe | 4.9-18.2mm            |                 | C/C            | 6 layers of 75mm wide soffit side  |
|  | Ø315mm per pipe   | 7.7mm                 |                 | C/C            | 10 layers of 75mm wide soffit side |
| PEX pipe-in-pipes  | ≤ Ø25mm per pipe  | -                     | -               | C/C            | None                               |
| PEX pipe-in-pipes  | ≤ Ø54mm per pipe  | -                     | -               | C/C            | 2 layers of 50mm wide soffit side  |
| Assesthance Cross SDDO nines   | Ø32mm per pipe    | -                     | -               | C/C            | 1 layer of 50mm wide soffit side   |
| Aduatherm Green SDR9 pipes   | ≤ Ø110mm per pipe | -                     | -               | C/C            | 2 layers of 50mm wide soffit side  |
| Cohorit Cilont DD nines  | ≤ Ø50mm per pipe  | -                     | -               | U/U            | 2 layers of 50mm wide soffit side  |
| Geberit Silent-PP pipes  | ≤ Ø110mm per pipe | -                     | -               | U/C            | 2 layers of 50mm wide soffit side  |
|  | ≤ Ø110mm per pipe | -                     | -               | U/C            | 2 layers of 50mm wide soffit side  |
| Polo-Kal NG pipes  | Ø125mm per pipe   | -                     | -               | U/C            | 4 layers of 50mm wide soffit side  |
|  | Ø160mm per pipe   | -                     | -               | U/C            | 6 layers of 50mm wide soffit side  |
|  | ≤ Ø50mm per pipe  | -                     | -               | U/U            | 2 layers of 50mm wide soffit side  |
| Pohau Pauniano Plus ninos  | ≤ Ø110mm per pipe | -                     | -               | U/C            | 2 layers of 50mm wide soffit side  |
| PEX pipe-in-pipes  Aquatherm Green SDR9 pipes  Geberit Silent-PP pipes           | Ø125mm per pipe   | -                     | -               | U/C            | 4 layers of 50mm wide soffit side  |
|  | Ø160mm per pipe   | -                     | -               | U/C            | 6 layers of 50mm wide soffit side  |

Fire Classification El 120 Sound Reduction 48 dB

| Type of Services                | Size of Services          | Pipe wall thicknesses | Pipe Insulation  | Pipe<br>config | Pipe Wraps                        |
|---------------------------------|---------------------------|-----------------------|--|----------------|-----------------------------------|
| Wayin SiTash nings              | ≤ Ø50mm per pipe          | -                     | -  | U/U            | 2 layers of 50mm wide soffit side |
| Wavin SiTech pipes              | ≤ Ø110mm per pipe         | -                     | -  | U/C            | 2 layers of 50mm wide soffit side |
| Conduits of PVC-U & PVC-C pipes | ≤ Ø110mm w/cables ≤ Ø14mm | 2.7-6.6mm             | -  | U/C            | 2 layers of 50mm wide soffit side |
| Ventilation ducts               | ≤ Ø400mm                  | -                     | ≥ 30mm thick x 15cm long stonewool mat ≥80kg/m³ top side | -              | Protecta FR Damper                |

| Appendix I – Linear seal solutions in floors          |    | Appendix II – Services with gaps ≤ 10mm in floors      |    |
|---|----|--|----|
| Top side seals to EI 180                              | 18 | Cables to EI 120                                       | 41 |
| Top side seals to EI 240                              | 19 | Steel pipes without insulation to EI 120               | 42 |
| Top side seals, movement & waterproof to EI 180       | 20 | Steel pipes with continuous insulation to EI 240       | 43 |
| Soffit side seals to EI 60 & E 120                    | 21 | Steel pipes with interrupted insulation to EI 240      | 44 |
| Double sided seals to EI 240                          | 22 | Copper pipes without insulation to EI 120              | 45 |
| Double sided seals, movement & waterproof to EI 240   | 23 | Copper pipes with continuous insulation to EI 240      | 46 |
| Extra wide seals with FR Board to EI 120              | 24 | Copper pipes with interrupted insulation to EI 240     | 47 |
| Extra wide seals with EX Mortar to EI 180             |    | Plastic pipes to El 120                                | 48 |
| Extra wide loadbearing seals with EX Mortar to EI 240 | 26 | Appendix II – Services with gaps ≤ 10mm in rigid walls |    |
| Appendix I – Linear seal solutions in rigid walls     |    | Cables to EI 120                                       | 49 |
| Single sided seals to EI 60 – 120                     | 27 | Steel pipes without insulation to EI 60 & E 120        | 50 |
| Single sided seals to EI 120                          | 28 | Steel pipes with continuous insulation to EI 120       | 51 |
| Double sided seals to EI 240                          | 29 | Steel pipes with interrupted insulation to EI 120      | 52 |
| Movement & waterproof seals to EI 120                 | 30 | Copper pipes without insulation to El 120              | 53 |
| Extra wide seals with FR Board to EI 90 & E 240       | 31 | Copper pipes with continuous insulation to EI 60       | 54 |
| Extra wide seals with FR Board to EI 120              | 32 | Copper pipes with interrupted insulation to EI 60      | 55 |
| Extra wide seals with FR Board to EI 180              | 33 | Alupex pipes without insulation to EI 120              | 56 |
| Appendix I – Linear seal solutions in drywalls        |    | Plastic pipes to El 240                                | 57 |
| Seals in 75mm walls to EI 45 & E 60                   | 34 | Appendix II – Services with gaps ≤ 10mm in drywalls    |    |
| Seals in 100mm walls without backing to EI 90         |    | Cables to El 120                                       | 58 |
| Seals in 100mm walls to EI 120                        | 36 | Steel pipes without insulation to EI 60 & E 120        |    |
| Seals in 100mm walls without backing to EI 120        |    | Steel pipes with continuous insulation to EI 120       | 60 |
| Movement & waterproof seals to EI 120                 |    | Steel pipes with interrupted insulation to EI 120      |    |
| Extra wide seals with FR Board to EI 120              |    | Copper pipes without insulation to EI 120              |    |
|   |    | Copper pipes with continuous insulation to EI 60       |    |

| Copper pipes with interrupted insulation to EI 60                        | 64         | Plastic pipes (small) to El 180 - 240                        | 9    |
|--|------------|--|------|
| Alupex pipes without insulation to El 120                                | 65         | Plastic pipes (medium) to El 30 - 240                        |      |
| Plastic pipes to El 60   | 66         | Plastic pipes (large) to EI 30 - 60                          | 9    |
| Appendix III – Services with gaps 10-30mm in floors                      |            | Plastic pipes (full range) with pipe collars to EI 120       |      |
| Cables in single sided seal to El 60 & E 120                             | 68         | Conduits (small pipes with cables) to EI 180 - 240           | 94   |
| Cables in single sided seal to El 90 & E 120                             |            | Conduits (large pipes with cables) to EI 60 - 90             | 9!   |
| Cables in double sided seal to EI 120                                    |            | Appendix III – Services with gaps 10-30mm in rigid walls     |      |
| Steel pipes with no insulation in single sided seal to EI 120            |            | Cables in single sided seal to EI 60 - 120                   | 9    |
| Steel pipes with no insulation in double sided seal to EI 240            | 72         | Cables in double sided seal to EI 60 - 120                   |      |
| Steel pipes with continuous stone wool insulation to EI 240 $_{ m}$      | <u></u> 73 | Cables in double sided seal to EI 60 - 240                   | 9    |
| Steel pipes with interrupted stone wool insulation to EI 60              | 74         | Steel pipes (small) with no insulation to EI 90              | 99   |
| Steel pipes with interrupted insulation to EI 90 & E 120                 | 75         | Steel pipes (small) with no insulation to EI 120             |      |
| Steel pipes with interrupted stone wool insulation to EI 120 $_{	ext{}}$ | 76         | Steel pipes with continuous stone wool insulation to EI 180  | 10   |
| Steel pipes (small) with combustible insulation to EI 180                | 77         | Steel pipes with continuous stone wool insulation to EI 240  | 10   |
| Steel pipes (medium) with combustible insulation to EI 60                | 78         | Steel pipes with interrupted insulation to EI 60 & E 180     | 103  |
| Steel pipes (large) with combustible insulation to El 60 - 120           | 79         | Steel pipes with interrupted stone wool insulation to EI 120 | 10   |
| Copper pipes (small) with no insulation to EI 120                        | 80         | Steel pipes (small) with combustible insulation to EI 120    | 10!  |
| Copper pipes with no insulation to EI 20 & E 120                         | 81         | Steel pipes with combustible insulation to EI 60 & E 120     | 100  |
| Copper pipes with continuous stone wool insulation to EI 180             | 0_82       | Steel pipes with thick combustible insulation to EI 60       | 10   |
| Copper pipes with interrupted insulation to El 60 - 240                  | 83         | Copper pipes (small) with no insulation to EI 60             | 108  |
| Copper pipes with interrupted insulation to El 120                       | 84         | Copper pipes with stone wool insulation to EI 60 - 240       | 109  |
| Copper pipes with combustible insulation to El 60 - 180                  | 85         | Copper pipes with stone wool insulation to EI 120            | .110 |
| Alupex pipes with no insulation to EI 120                                | 86         | Copper pipes with combustible insulation to EI 60 - 120      | 11   |
| Alupex pipes with stone wool insulation to EI 240                        | 87         | Alupex pipes (small) with no insulation to EI 120            | 11   |
| Alupex pipes with combustible insulation to EI 60 - 180                  | 88         | Alupex pipes with stone wool insulation to El 60 - 120       | _113 |
| PEX pipe-in-pipe to EI 90  | 89         | Alupex pipes with stone wool insulation to EI 120            | 114  |
|  |            |  |      |

| Alupex pipes with combustible insulation to EI 60 - 120              | 115             | Alupex pipes with stone wool insulation to EI 120           | 14 |
|--|-----------------|---|----|
| Plastic pipes (small) to EI 60 - 120                                 | 116             | Alupex pipes with combustible insulation to EI 60 - 120     | 14 |
| Plastic pipes (small) to EI 180 - 240                                | 117             | Plastic pipes (small) in 75mm walls to EI 45 & E 60         | 14 |
| PEX pipe-in-pipe to EI 120   | 118             | Plastic pipes (small) in 100mm walls to EI 60 - 120         | 14 |
| PVC & PE pipes (medium) to EI 60 - 120                               | 119             | PEX pipe-in-pipe to EI 120                                  | 14 |
| PVC (large) & PP pipes (medium) to EI 30 - 90                        | 120             | PVC & PE pipes (medium) to EI 60 - 120                      |    |
| PVC pipes (large) to El 90 - 180                                     | 121             | PVC (large) & PP pipes (medium) to EI 30 - 90               | 14 |
| Plastic pipes (full range) with pipe collars to EI 60 - 240          |                 | Plastic pipes (full range) with pipe collars to EI 60 - 90  | 14 |
| Conduits (pipes with cables) to EI 60 - 90                           | 123             | Conduits (pipes with cables) in 75mm walls to EI 45         | 14 |
| Appendix III – Services with gaps 10-30mm in drywalls                |                 | Conduits (pipes with cables) in 100mm walls to EI 60 - 90   | 14 |
| Cables in 75mm walls to EI 45 & E 60                                 | 124             | Appendix IV – Larger apertures in drywalls                  |    |
| Cable bundles in 75mm walls to EI 30                                 | 125             | Cables to EI 60 & E 120                                     | 15 |
| Cables in 100mm walls to EI 120                                      | 126             | Cables on cable trays in 75mm walls to EI 30                | 15 |
| Cables (large) in 100mm walls to EI 60 & E 120                       | 127             | Cables on cable trays in framed aperture to EI 60           | 15 |
| Steel pipes in 75mm walls with no insulation to EI 30 $\&$ E $\&$    | 50 <u>.</u> 128 | Cables, wires and conduits on cable trays to EI 60          | 15 |
| Steel pipes in 100mm walls with no insulation to El 90               | 129             | Steel pipes with no insulation in 75mm walls to EI 30       | 15 |
| Steel pipes in 100mm walls with no insulation to EI 120 $_{ m}$      | 130             | Steel pipes with no insulation to EI 20 – 60 & E 120        | 15 |
| Steel pipes in 75mm walls with continuous insul. to EI 45 $_{ m}$    | 131             | Steel pipes with combustible insulation to EI 60 - 120      | 15 |
| Steel pipes in 100mm walls with continuous insulation                | 132             | Steel pipes with stone wool insulation in 75mm walls        | 15 |
| Steel pipes with interrupted insulation to EI 90 - 120               | 133             | Steel pipes with stone wool insulation in framed aperture   | 15 |
| Steel pipes (small) with combustible insulation to EI 120 $_{\dots}$ | 134             | Steel pipes with continuous stone wool insulation to EI 120 | 16 |
| Steel pipes with combustible insulation to EI 60 & E 120 $_{ m}$     | 135             | Steel pipes with interrupted stone wool insulation to EI 90 | 16 |
| Copper pipes with no insulation to EI 30 - 60                        | 136             | Copper pipes with no insulation to EI 60 & E 120            | 16 |
| Copper pipes with stone wool insulation to EI 120                    | 137             | Copper pipes with combustible insulation to EI 60 - 120     | 16 |
| Copper pipes with combustible insulation to El 60 - 120 $_{ m}$      | 138             | Copper pipes with stone wool insulation to EI 120           | 16 |
| Alupex pipes with no insulation to EI 120                            | 139             | Alupex pipes with no insulation to EI 120                   | 16 |
|  |                 |   |    |

| Alupex pipes with combustible insulation to EI 120             | 166 | Steel pipes with interrupted stone wool insulation to EI 180 | 19  |
|--|-----|--|-----|
| Alupex pipes with stone wool insulation to EI 60 - 120         | 167 | Copper pipes with no insulation to EI 60 & E 120             | 192 |
| Plastic pipes in 75mm walls to EI 45                           | 168 | Copper pipes with combustible insulation to EI 60 - 120      | 193 |
| Plastic pipes in framed aperture to EI 60                      | 169 | Copper pipes with stone wool insulation to El 90 - 240       | 19  |
| Plastic pipes (small) to EI 60 - 90                            | 170 | Copper pipes with stone wool insulation to El 120            | 19  |
| PEX pipe-in pipes to EI 90 - 120                               | 171 | Alupex pipes with no insulation to EI 120                    | 190 |
| Plastic pipes (full range) to EI 90 - 120                      | 172 | Alupex pipes with combustible insulation to EI 120           | 19  |
| Composite plastic pipes to EI 60 - 120                         | 173 | Alupex pipes with stone wool insulation to EI 90 - 120       | 198 |
| Plastic conduits to EI 90 & E 120                              | 174 | Alupex pipes with stone wool insulation to EI 120 - 240      | 199 |
| Ventilation ducts to El 60 - 120                               | 175 | Plastic pipes (small) to EI 60 – 90 & E 120                  | 200 |
| Appendix IV – Larger apertures in rigid walls                  |     | PEX pipe-in pipes to EI 90 - 120                             | 20  |
| Cables on cable trays with single 50mm boards to El 60         | 176 | Plastic pipes (full range) to EI 90 - 120                    | 202 |
| -  |     | Plastic pipes (full range) to EI 120 - 240                   | 203 |
| Cables to EI 90 & E 240<br>Cables and conduits to EI 120 - 180 |     | Composite plastic pipes to EI 60 - 120                       | 204 |
| Cables and conduits on cable trays to EI 60                    |     | Plastic conduits to EI 90 & E 120                            | 20  |
| Cables and conduits on cable trays to El 60 - 120              |     | Ventilation ducts to EI 60 - 120                             | 20  |
| Cables, wires and conduits on cable trays to El 60 - 240       |     | Appendix IV – Larger apertures in floors                     |     |
| Cables and conduits on cable trays w/oversailing boards        |     | Cables and conduits to EI 60 - 180                           | 20  |
| Steel pipes with no insulation to EI 20 – 60 & E 120           |     | Cables (large) and conduits to EI 60 - 180                   |     |
| Steel pipes with combustible insulation to EI 45 & E 120       | 184 | Cables (large) and conduits to EI 60 - 180 & E 240           |     |
| Steel pipes with combustible insulation to EI 60 - 120         | 185 | Cables, wires and conduits on cable trays to EI 60 & E 180   | 210 |
| Steel pipes with continuous stone wool insulation to EI 60     | 186 | Cables (large), wires and conduits on trays to EI 60 & E 120 | 21  |
| Steel pipes with continuous insulation to EI 90 & E 240        | 187 | Cables, wires and conduits on cable trays to EI 120          | 212 |
| Steel pipes with continuous stone wool insulation to EI 120    | 188 | Steel pipes (small) with no insulation to EI 180             | 21  |
| Steel pipes with continuous stone wool insulation to EI 180    | 189 | Steel pipes (small) with no insulation to EI 240             | 21  |
| Steel pipes with interrupted insulation to EI 90 & E 240       | 190 | Steel pipes with combustible insulation to EI 120 - 180      | 21  |
|  |     |  |     |

| Steel pipes with continuous stone wool insulation to EI 180 $_{\scriptscriptstyle}$ | 216  |
|---|------|
| Steel pipes with continuous stone wool insulation to EI 240 $_{	ext{}}$             | 217  |
| Steel pipes with interrupted insulation to EI 90 - 240                              | 218  |
| Steel pipes with interrupted stone wool insulation to EI 120                        | 219  |
| Copper pipes with no insulation to EI 30 - 120                                      | 220  |
| Copper pipes (large) with no insulation to EI 20 - 120                              | 221  |
| Copper pipes with combustible insulation to EI 60 - 240                             | 222  |
| Copper pipes with continuous insulation to El 120                                   | 223  |
| Copper pipes with continuous insulation, loadbearing                                | 224  |
| Copper pipes with stone wool insulation to EI 180 - 240                             | 225  |
| Copper pipes with stone wool insulation, loadbearing                                | _226 |
| Alupex pipes with no insulation to EI 180   | _227 |
| Alupex pipes (large) with no insulation to EI 20 & E 240                            | 228  |
| Alupex pipes with combustible insulation to EI 90 - 240                             | 229  |
| Alupex pipes with stone wool insulation to EI 180 - 240                             | 230  |
| Alupex pipes with stone wool insulation, loadbearing                                | 231  |
| Plastic pipes (small) to EI 120 - 240   | 232  |
| Plastic pipes (small) to EI 120 - 240, loadbearing                                  | 233  |
| PEX pipe-in pipes to EI 120   | 234  |
| Plastic pipes (full range) to EI 90 - 240   | 235  |
| Plastic pipes, additional approvals in 120mm cast                                   | 236  |

| Plastic pipes, additional approvals in 150mm cast   | 237     |
|---|---------|
| Composite plastic pipes to EI 120 - 240             | 238     |
| Conduits (pipes with cables) to EI 60 - 120         | 239     |
| Ventilation ducts to EI 60 - 120                    | 240     |
| Appendix V – Apertures with mixed services          |         |
| Drywalls (75mm) to EI 30                            | 242-243 |
| Drywalls with framed apertures to EI 60             | 244-245 |
| Drywalls to EI 60                                   | 246-249 |
| Masonry and concrete walls to EI 60 (single board)  | 250-251 |
| Masonry and concrete walls to E 120 (single board)  | 252-253 |
| Masonry and concrete walls to EI 60 (double boards) | 254-257 |
| Masonry and concrete walls to EI 120                | 258-260 |
| Concrete floors to EI 60 (with 50mm cast depth)     | 261-262 |
| Concrete floors to E 120 (with 50mm cast depth)     | 263-264 |
| Concrete floors to EI 60 (with 100mm cast depth)    | 265-268 |
| Concrete floors to EI 120 (with 100mm cast depth)   | 269-272 |
| Concrete floors to EI 120 (with 150mm cast depth)   | 273-277 |
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