TECHNICAL HANDBOOK

Fire stopping of service penetrations

7th edition October 2021





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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 28 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 CEO of Polyseam & Handbook Editor

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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

Product Selector - Linear Seals



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



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

Properties Seal Size Construction 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 Protecta EX Mortar Up to 800mm wide

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	
		Metal pipes; combustible insulations	FR Collar
		Plastic pipes	
		Ventilation ducts	FR Putty Cord & FR Damper
Gap between	-	Cables	FR Acrylic
10 and 30mm		Metal pipes; un-insulated or mineral wool insulations	
		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		Metal pipes; un-insulated or mineral wool insulations	
mixed		Metal pipes; combustible insulations	FR Board & FR Pipe Wrap
services		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	
		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. To calculate the maximum allowed cross sectional area of a circular aperture, simply calculate the size in for instance cm² and then use this to calculate the allowed diameter (\emptyset):

A rectangular aperture of 1200 x 2400mm would have a cross sectional area (A) 28,800cm² radius = $V(A/\Pi) = V(28,800/3,14) = V9172 = 96$ cm \emptyset = radius x 2 = 96x2 = $\underline{\emptyset}192$ cm

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.

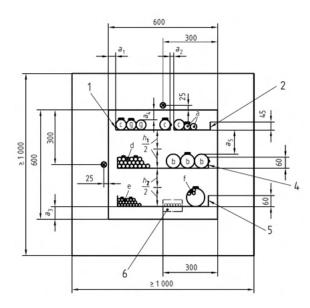
Maximum Aperture Sizes within Floors or between Floors and Walls
1200 mm width x 2400 mm length (tested)
1100 mm width x 2900 mm length (allowed)
1000 mm width x 4000 mm length (allowed)
900 mm width x 7000 mm length (allowed)
≤ 800 mm width x ∞ (infinite) length (allowed)

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.



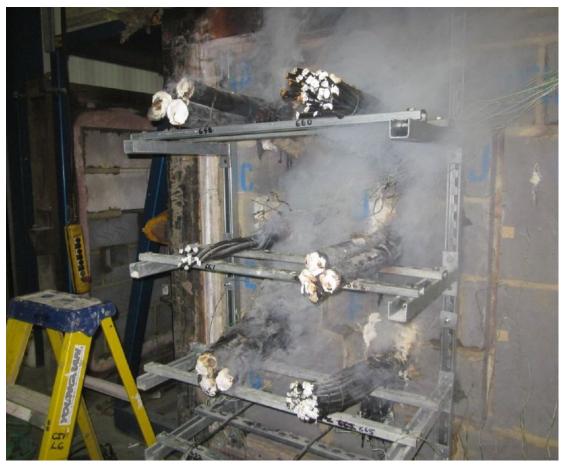
Example of standard configuration for cable penetration systems according to EN 1366-3

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

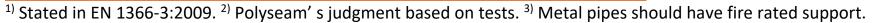
When testing pipes, one can choose not to cap (or close) or to cap the pipe inside or outside the furnace. The configuration chosen depends on the intended application of the pipe and/or the installation environment. The code defining if a pipe is capped is stated after the fire classification. For instance 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 ¹⁾	(/
	Not at drainage	C/C ²⁾	5
Drainage or sewage pipe, plastic	Ventilated drain	U/U ¹⁾	
	Unventilated drain	U/C ¹⁾	
	Drain w/water trap	U/C ¹⁾	
	Not at drainage	C/C ²⁾	
Pipe in closed circuit (water, gas, air, e	lectricity etc.)	C/C ²⁾³⁾	
Flue gas recovery system pipe, plastic		U/C ¹⁾	
Pipe with open ends and ≥ 50cm lengt	h on both sides, plastic	U/U ²⁾	- Malan
Pipe supported by suspension system,	Fire rated support	C/U ¹⁾	
metal	Non-fire rated	U/C ¹⁾	
Waste disposal shaft pipe, metal		U/C ¹⁾	





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.

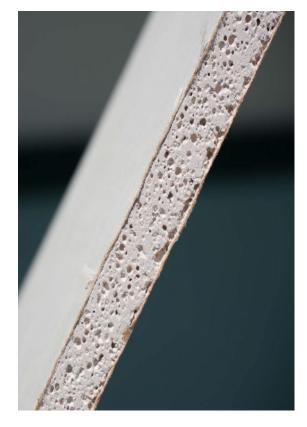
The standard **flexible wall** constructions specified in the test standard are:

Nominal minimum	Thickness of gypsum board	Number of	Indicative fire	
overall thickness in mm	EN 520 Type F in mm	layers each side	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 (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/m³ and a thickness of 150mm.



Supporting constructions and service supports

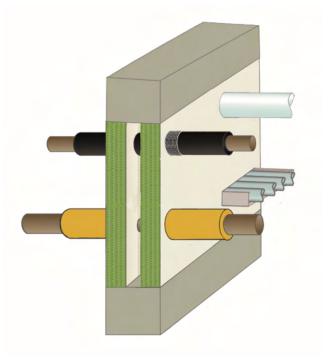
The supporting constructions (fire rated walls and floors) should be classified in accordance with EN 13501-2 for the required fire resistance period.

Services in floors should have the first support located maximum 500mm from the top face, and services in walls should have the first support located maximum 300mm 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'.

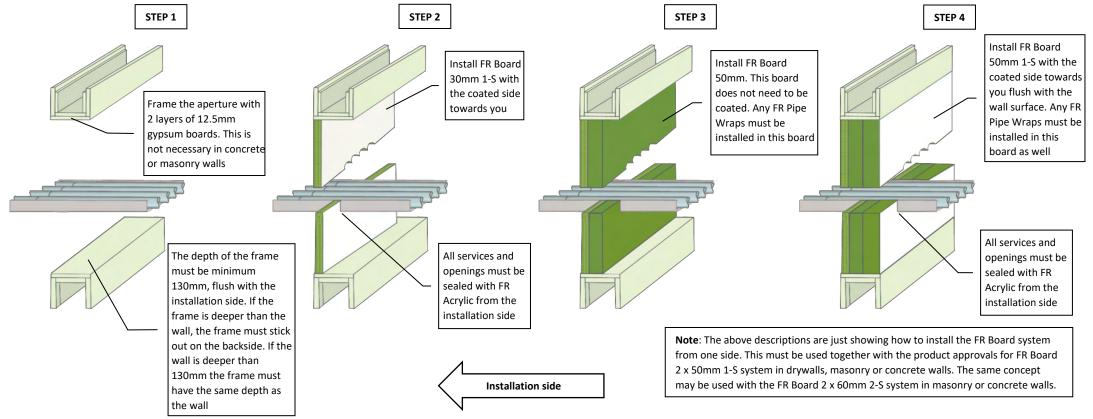
The technical solutions on the last pages of this handbook are for mixed services, but do not include all the different options and are provided as a quick guide. Here you can select the fire resistance and see what fire stopping system you require for a whole group of services, this simplifies the engineering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



Normal on-site problems and solutions

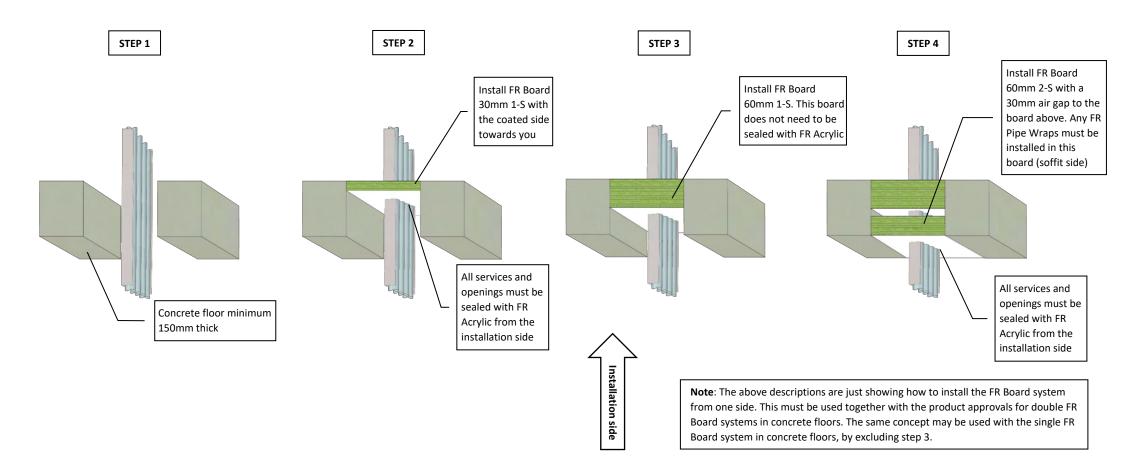
Single sided access, walls

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.



Single sided access, floors

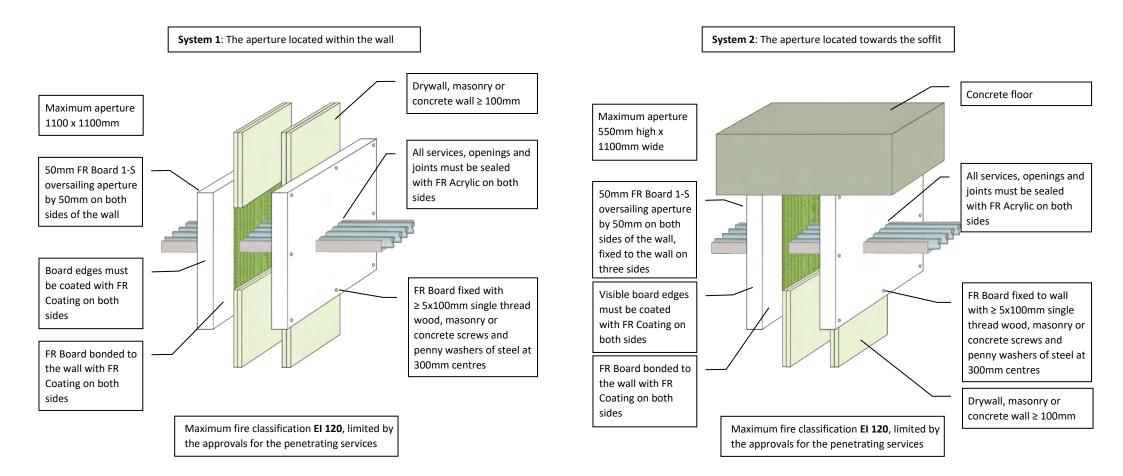
The Protecta FR Board system requires the sealing of gaps from both sides of a floor after insertion. However, with access to only one side, this is solvable by using an additional upper board with the coating facing towards the installer; it will result in the same fire seal as the certified solutions. Below are the detailed descriptions.



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.

Q: To what fire standard is the products tested?

A: For fire stopping of service penetrations, the test standard used is EN 1366-3 in conjunction with EN 1363-1.

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.

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, it is not allowed. Please see our handbook for timber constructions.

FAQ's

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.

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.

FAQ's

Q: I am to fire seal a plastic pipe, but it is not a standard PVC, PE or PP pipe. Can I use the general instructions for plastic pipes?

A: Yes, in most cases. Where PVC pipes are mentioned, this includes PVC-C and PVC-U pipes. Where PP pipes are mentioned, this includes PP-MV, PP-H, PP-R and similar if the pipe is according to EN 1451-1 or DIN 8077/8078. Where PE pipes are mentioned, this includes PE-LD, PE-MD, PE-HD, PE-X and similar according to EN 1519-1, EN 12201-2 or EN 12666-1.

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

Service penetration solutions with annular gaps ≤ 10mm

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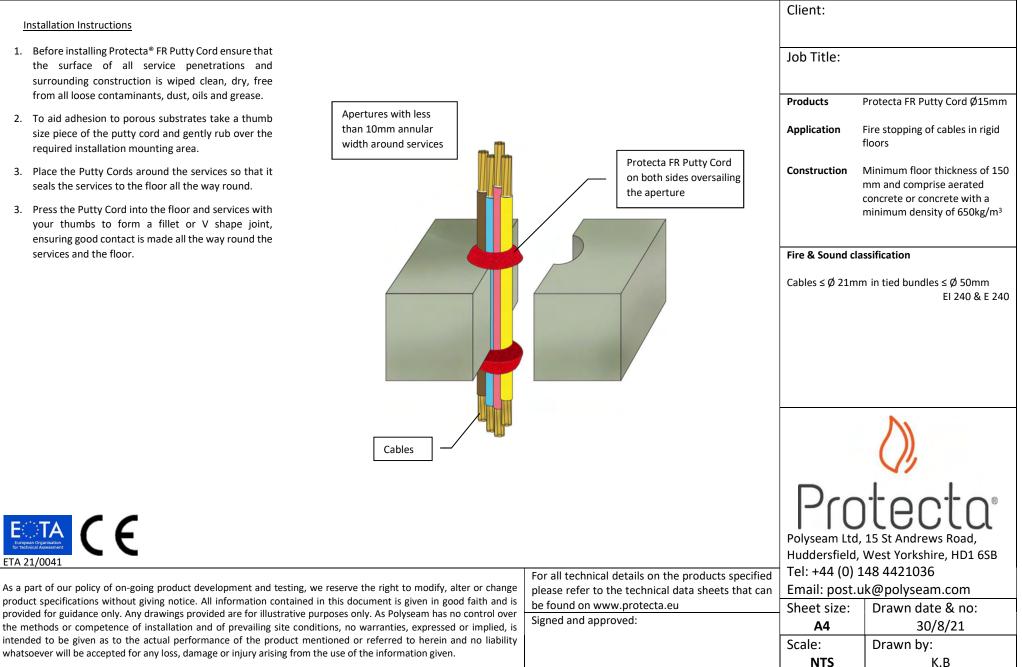
- 1. Before installing Protecta® FR Putty Cord e the surface of all service penetrat surrounding construction is wiped clean from all loose contaminants, dust, oils and
- 2. Place the Putty Cord around the services seals the services to the floor all the way
- 3. Press the Putty Cord into the floor and ser your thumbs to form a fillet or V sh ensuring good contact is made all the way services and the floor.

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Are product specifications without giving notice. All information contained in this document is given ingorts on the specific for underse or implicit, intended to be given as to the actual performance of the product mentioned or referred to herein and no liability. for all technical details on the products specific mail: post-tule@polyseam.com Branch our policy of on-going product development and testing, we reserve the right to modify, alter or change in the details on the products specific for underse in the product specific mail to intended or referred to herein and no liability. for all technical details on the product specific mail: post-tule@polyseam.com Branch and approved: for and approved: for and approved: for and approved:	3. 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	on top side oversailing	Construction	mm and comprise aerated concrete or concrete with a
As part of our policy of on-going product development and testing, we reserve the right to modify, alter or change rood using product generations without giving notice. All information contained in this document is given in the dot of the reserve the right to modify. The refer to the technical data sheets that cate the rood to referred to herein and no liability intended to be given as to the actual performance of the product mentioned or referred to herein and no liability intended to be given as to the actual performance of the product mentioned or referred to herein and no liability intended to be given as to the actual performance of the product mentioned or referred to herein and no liability intended to be given as to the actual performance of the product mentioned or referred to herein and no liability intended to the given as to the actual performance of the product mentioned or referred to herein and no liability intended to the given as to the actual performance of the product mentioned or referred to herein and no liability.		6	Fire & Sound cl	assification
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EI 60 & E 120 Le Le L			Single cables ≤ 9	Ø 80mm EI 60 & E 120
ETA 21/0041 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.			Cables ≤ Ø 21m	
ETA 21/0041 Huddersfield, West Yorkshire, HD1 6SB 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 www.protecta.eu Tel: +44 (0) 148 4421036 Signed and approved: Sheet size: Drawn date & no: Signed and approved: A4 29/5/18 Scale: Drawn by:	Cables			$\langle \rangle$
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.			Huddersfield,	West Yorkshire, HD1 6SB
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			Scale: NTS	Drawn by: K.B

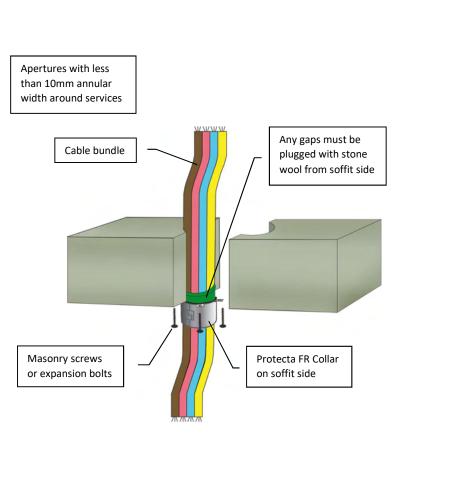
- 1. Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. To aid adhesion to porous substrates take a thumb size piece of the putty cord and gently rub over the required installation mounting area.
- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- 3. 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.

Installation Instructions		Client:	
 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. 		Job Title:	Dratasta ED Dutty Card Ø15mm
 To aid adhesion to porous substrates take a thumb size piece of the putty cord and gently rub over the required installation mounting area. Apertures with less than 10mm annular 		Products Application	Protecta FR Putty Cord Ø15mm Fire stopping of cables in rigid floors
 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, 		Construction	Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
ensuring good contact is made all the way round the services and the floor.		Fire & Sound classingle cables ≤ (
		Single cables ≤ § Cables ≤ Ø 21m	Ø 80mm El 45 & E 90 m in tied bundles ≤ Ø 75mm El 45 & E 60
Cables	Protecta FR Putty Cord on soffit side oversailing the aperture		$\langle \rangle$
		Polyseam Ltd Huddersfield,	15 St Andrews Road, West Yorkshire, HD1 6SB
ETA 21/0041 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	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:	Email: post. Sheet size:	148 4421036 uk@polyseam.com Drawn date & no:
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- 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. To aid adhesion to porous substrates take a thumb size piece of the putty cord and gently rub over the required installation mounting area.
- 3. Place the Putty Cords around the services so that it seals the services to the floor all the way round.
- 3. 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.



- Before fitting the collar ensure that any gaps between the cable bundle and the separating element are sealed with 20mm deep stonewool to plug the opening.
- 2. Place a suitable collar around the cable bundle and ensure that the collar shell and 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 collar shell.
- 4. Attach the collar with \ge Ø4 x 40mm long masonry screws or expansion bolts.





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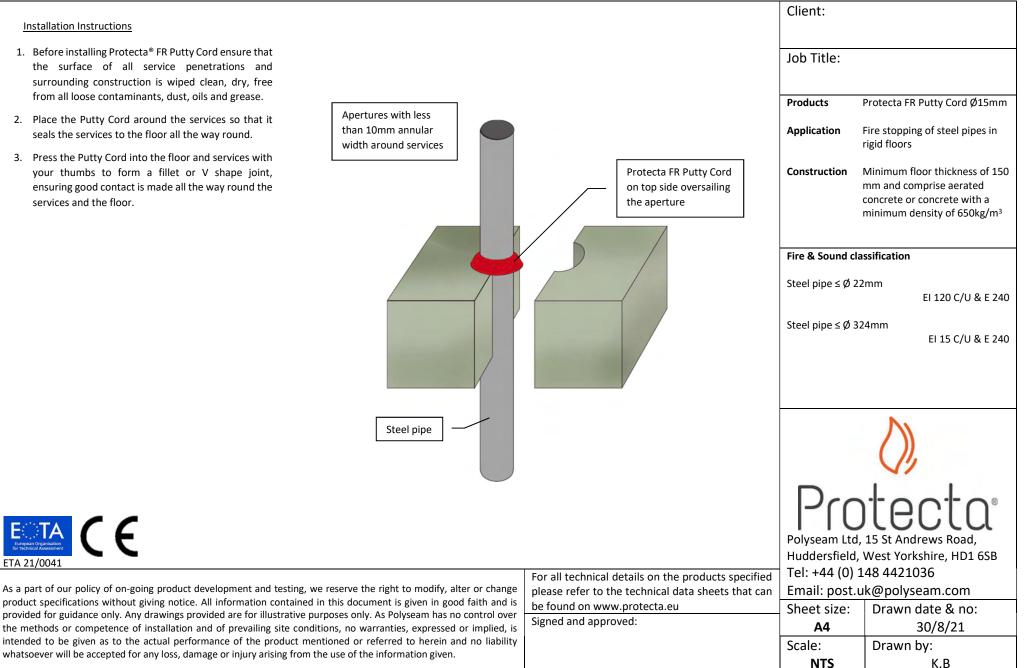
For all technical details on the products specified	
please refer to the technical data sheets that can	
be found on www.protecta.eu	
Signed and approved:	

	Client:					
	Job Title:					
	Products Protecta FR Collar Stonewool					
	••	Fire stopping of cables in rigid floors				
		Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³				
	Fire & Sound cla	ssification				
		n, in a bundle ≤ Ø55mm, with at ≥ 30mm height El 120 & E 120				
	Cables $\leq \emptyset$ 21mm, in a bundle $\leq \emptyset$ 100mm, with collars $\leq \emptyset$ 110mm at \geq 50mm height EI 90 & E 90					
		n, in a bundle ≤ Ø160mm, with n at ≥ 60mm height El 180 & E 180				
	Sound reduction	(seal only) 58dB				
	Protecta					
	Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB					
ed	Tel: +44 (0) 148 4421036					
an	Email: post.u	k@polyseam.com				
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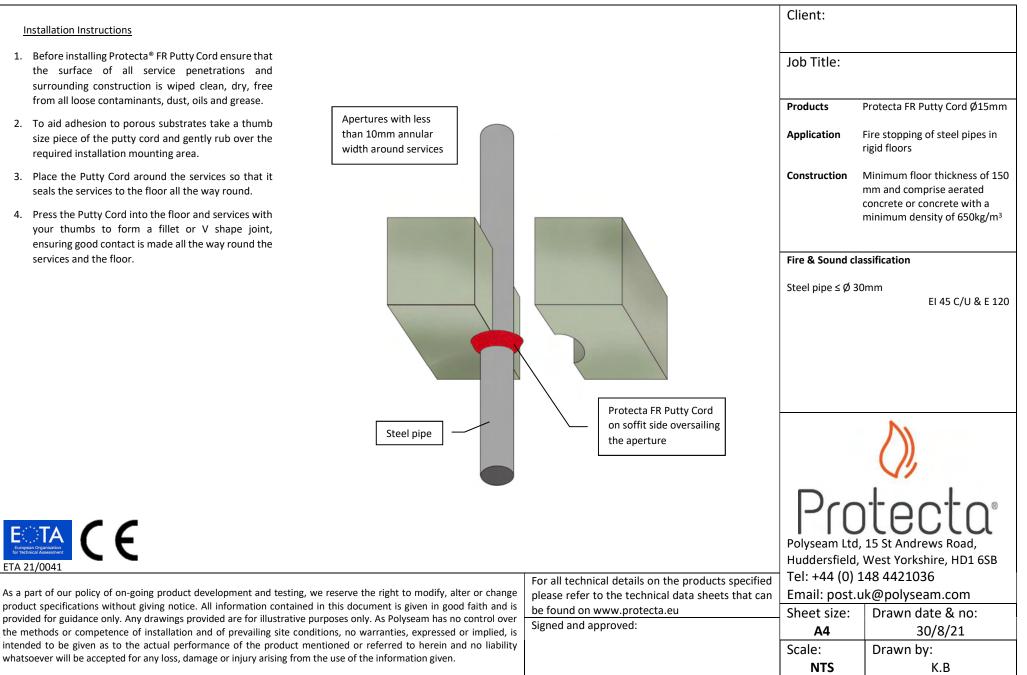
K.B

- 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 floor all the way round.
- 3. 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.

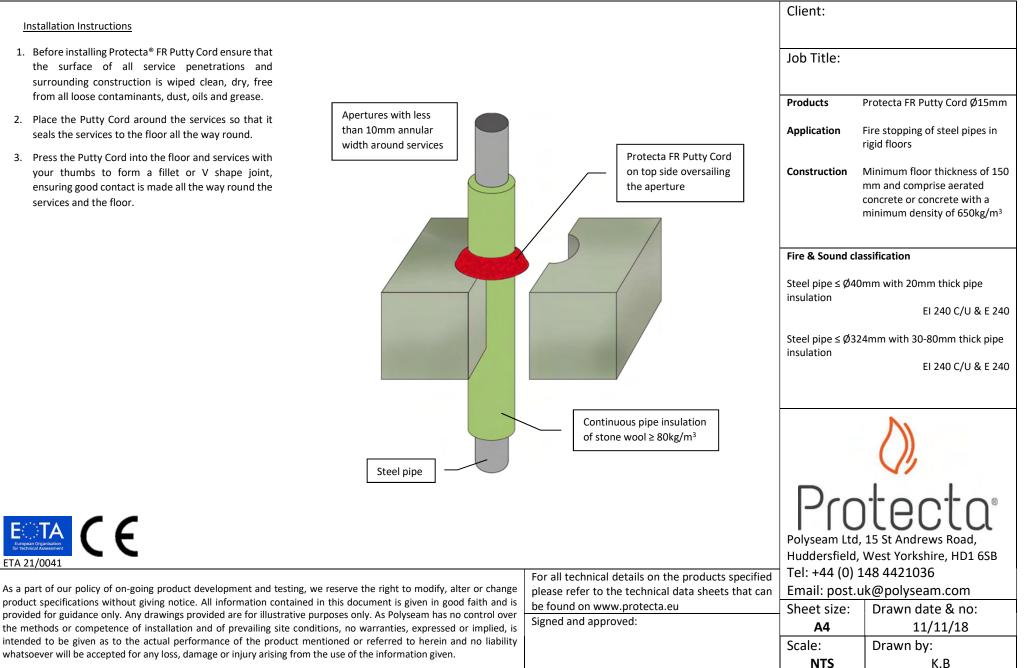


European Organisation for technical assessment

- 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. To aid adhesion to porous substrates take a thumb size piece of the putty cord and gently rub over the required installation mounting area.
- 3. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- 4. 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.



- 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 floor all the way round.
- 3. 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.

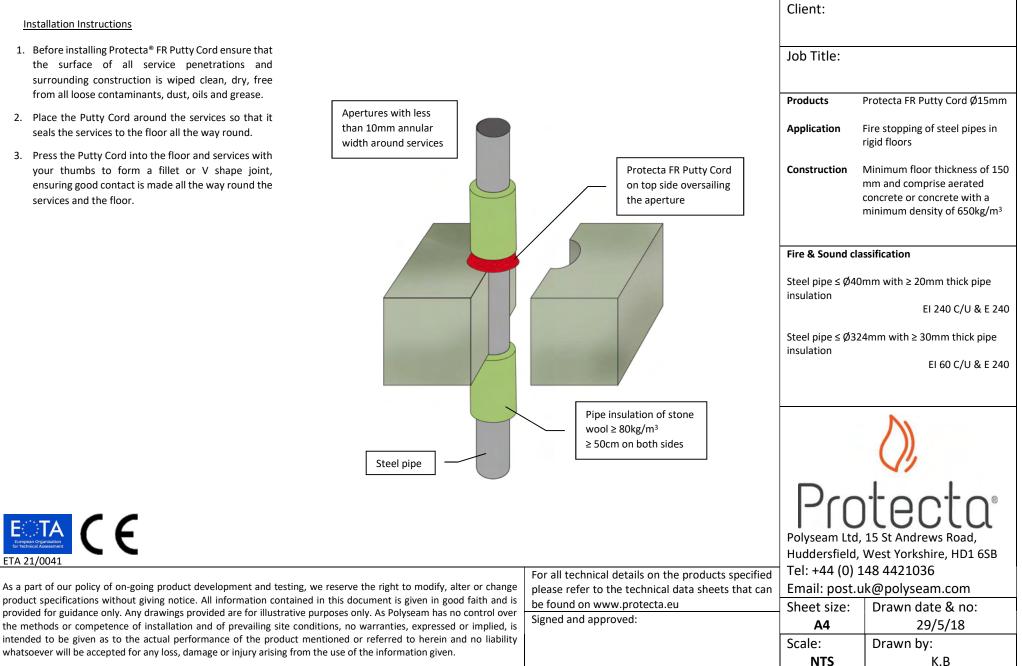


- 1. Before installing Protecta® FF the surface of all servi surrounding construction is from all loose contaminants,
- 2. Place the Putty Cord around seals the services to the floor
- 3. Press the Putty Cord into the your thumbs to form a fi ensuring good contact is mad services and the floor.

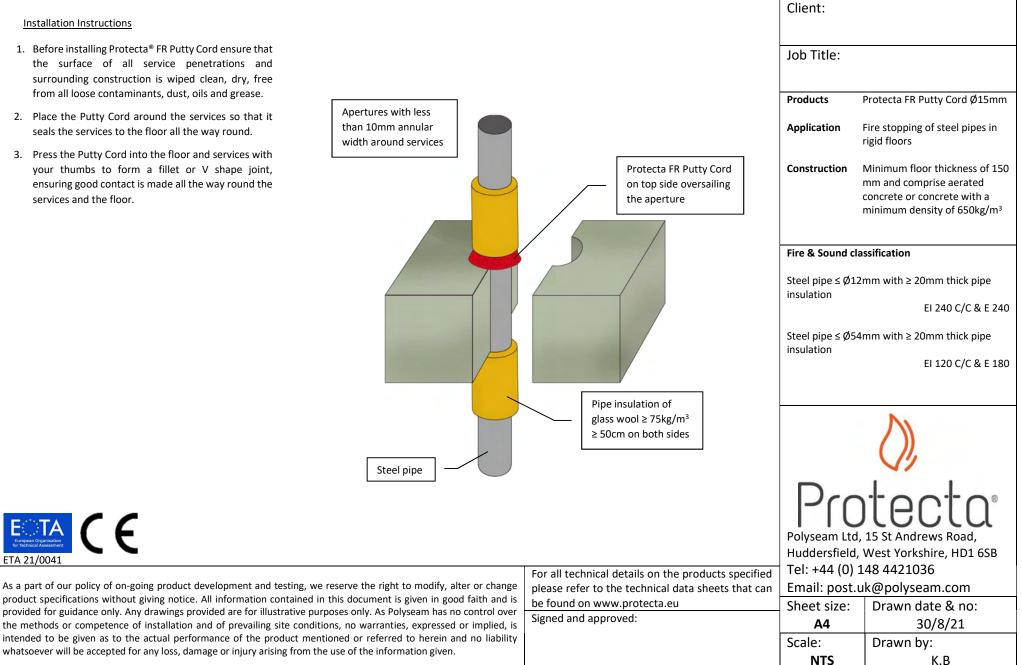
Installation Instructions			
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease. 		Job Title:	Protecta FR Putty Cord Ø15mm
 Place the Putty Cord around the services so that it seals the services to the floor all the way round. Apertures with less than 10mm annular 		Application	Fire stopping of steel pipes in rigid floors
3. 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.	Protecta FR Putty Cord on top side oversailing the aperture		Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
		insulation	assification Imm with 20mm thick pipe EI 90 C/C & E 240 Imm with 20-40mm thick pipe EI 90 C/C & E 90
Steel pipe	Continuous pipe insulation of glass wool ≥ 75kg/m ³	Pro	tecta tecta
ETA 21/0041		Huddersfield,	West Yorkshire, HD1 6SB
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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.		Scale: NTS	Drawn by: K.B

Client:

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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.
- 3. 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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- 3. 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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ETA 21/0070

- 1. Before fitting the collar ensure that any gaps between the pipe insulation and the separating element are sealed with 20mm deep stonewool to plug the opening.
- 2. Place a suitable collar around the pipe insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

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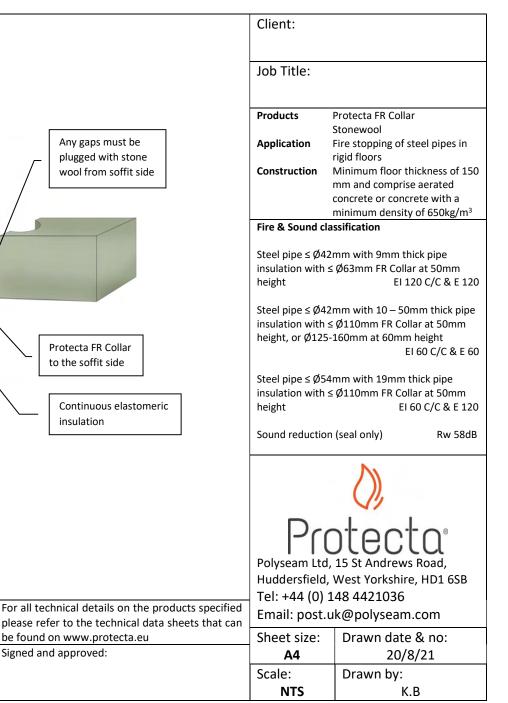
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whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

Apertures with less than 10mm annular width around services Any gaps must be Steel pipe plugged with stone wool from soffit side Protecta FR Collar Masonry screws or expansion bolts to the soffit side Continuous elastomeric insulation

be found on www.protecta.eu

Signed and approved:

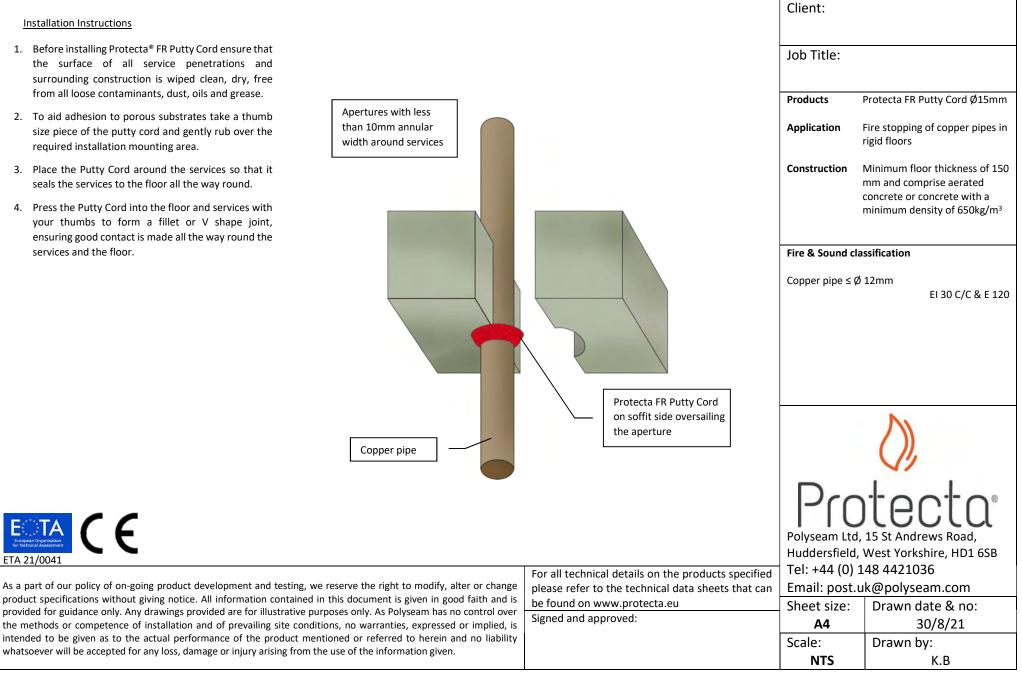


- 1. Before installing Protecta® FR Pu the surface of all service surrounding construction is wi from all loose contaminants, du
- 2. Place the Putty Cord around th seals the services to the floor al
- 3. Press the Putty Cord into the flo your thumbs to form a fillet ensuring good contact is made a services and the floor.

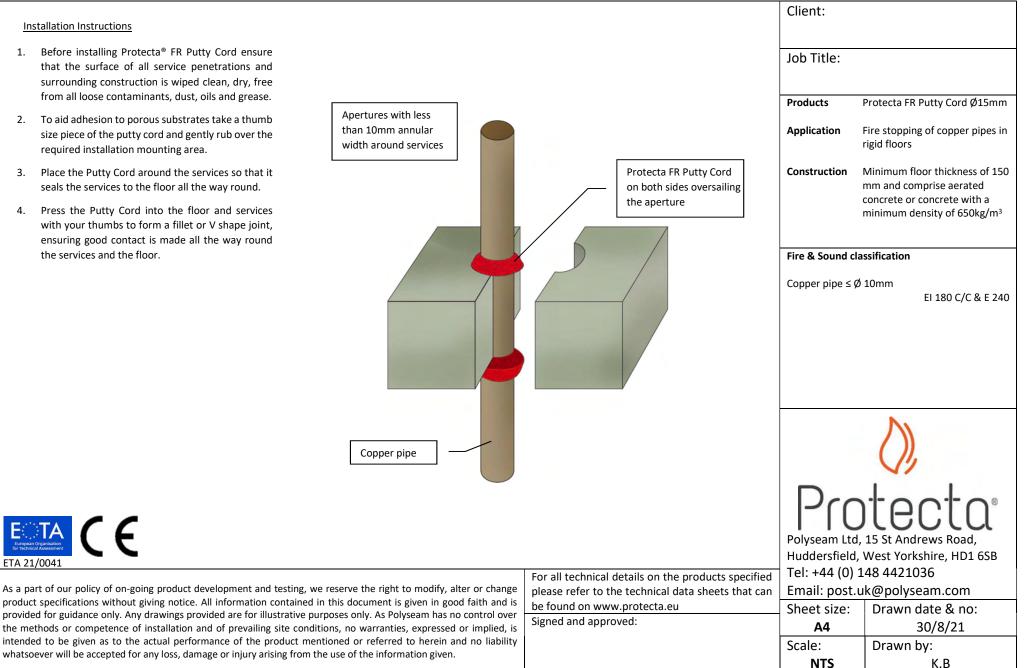
Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
 from all loose contaminants, dust, oils and grease. Place the Putty Cord around the services so that 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. 	Protecta FR Putty Cord on top side oversailing the aperture	Products Application Construction	Protecta FR Putty Cord Ø15mm Fire stopping of copper pipes in rigid floors Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
		Fire & Sound classical Copper pipe ≤ \emptyset Copper pipe ≤ \emptyset	10mm EI 90 C/C & E 120
Copper pipe			
ECTA 21/0041		Huddersfield,	15 St Andrews Road, West Yorkshire, HD1 6SB
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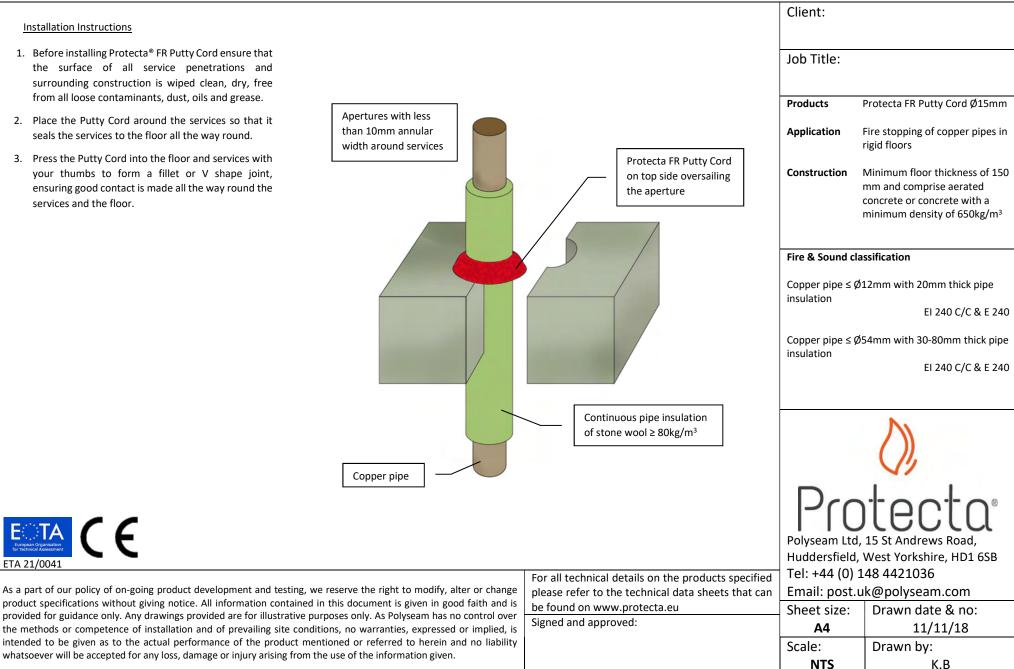
- 1. Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. To aid adhesion to porous substrates take a thumb size piece of the putty cord and gently rub over the required installation mounting area.
- 3. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
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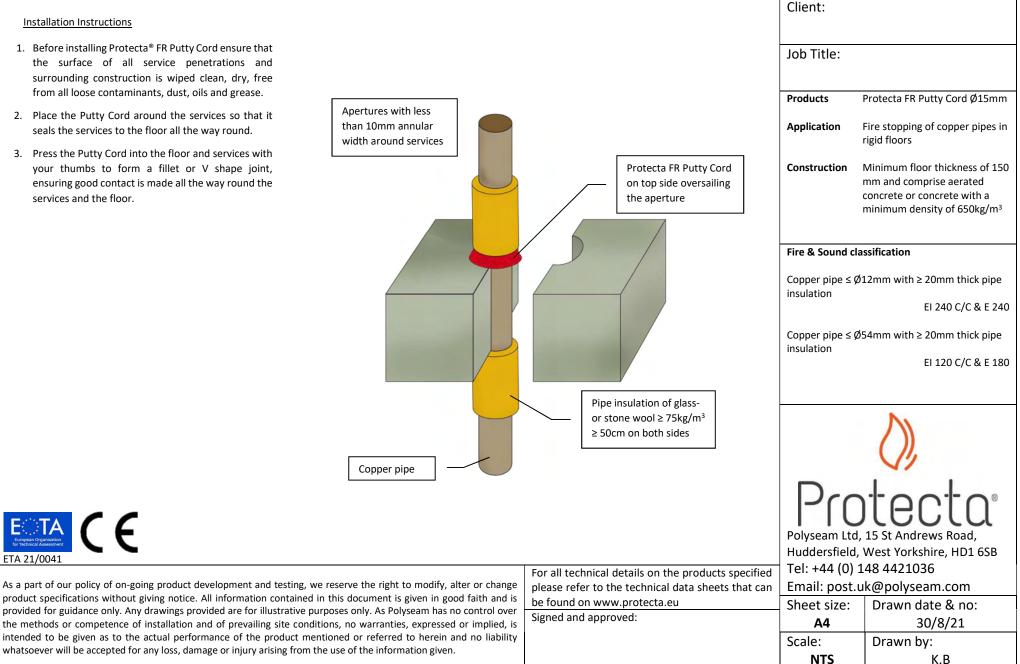


- 1. Before installing Protecta® the surface of all se surrounding construction from all loose contaminar
- 2. Place the Putty Cord arou seals the services to the fl
- 3. Press the Putty Cord into your thumbs to form ensuring good contact is services and the floor.

 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. 		Job Title: Products	Protecta FR Putty Cord Ø15mm		
2. Place the Putty Cord around the services so that it seals the services to the floor all the way round. Apertures with less than 10mm annular		••	Fire stopping of copper pipes in rigid floors		
3. 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.	Protecta FR Putty Cord on top side oversailing the aperture		Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³		
			Fire & Sound classification		
			12mm with 20mm thick pipe El 90 C/C & E 240		
		Copper pipe $\leq \emptyset$ 54mm with 20-40mm thick pipe insulation			
			EI 90 C/C & E 90		
	Continuous pipe insulation of glass wool ≥ 75kg/m ³		$\langle \rangle$		
Copper pipe		Prr	tecto.		
		•	15 St Andrews Road, West Yorkshire, HD1 6SB		
ETA 21/0041	For all technical details on the products specified	Tel: +44 (0) 1			
As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or chain and the applications without siving partice. All information contained in this desumption is given in good foils on	ge please refer to the technical data sheets that can	· · ·	ik@polyseam.com		
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the methods or competence of installation and of prevailing site conditions, no warranties, expressed or impliec intended to be given as to the actual performance of the product mentioned or referred to herein and no liab	IS S S S	A4	30/8/21		
whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.		Scale: NTS	Drawn by: K.B		
		INIS	N.D		

Client:

- 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 floor all the way round.
- 3. 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.



European Organisation for Technical Assessment

ETA 21/0070

- 1. Before fitting the collar ensure that any gaps between the pipe insulation and the separating element are sealed with 20mm deep stonewool to plug the opening.
- 2. Place a suitable collar around the pipe insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

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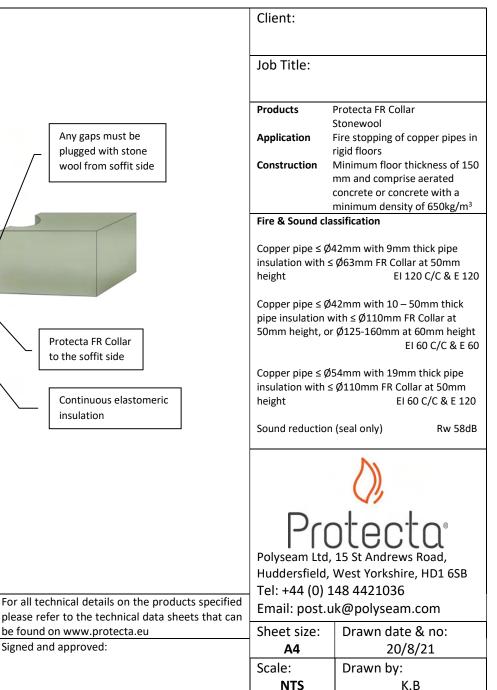
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whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

Apertures with less than 10mm annular width around services Any gaps must be Copper pipe plugged with stone wool from soffit side Protecta FR Collar Masonry screws or expansion bolts to the soffit side Continuous elastomeric insulation

be found on www.protecta.eu

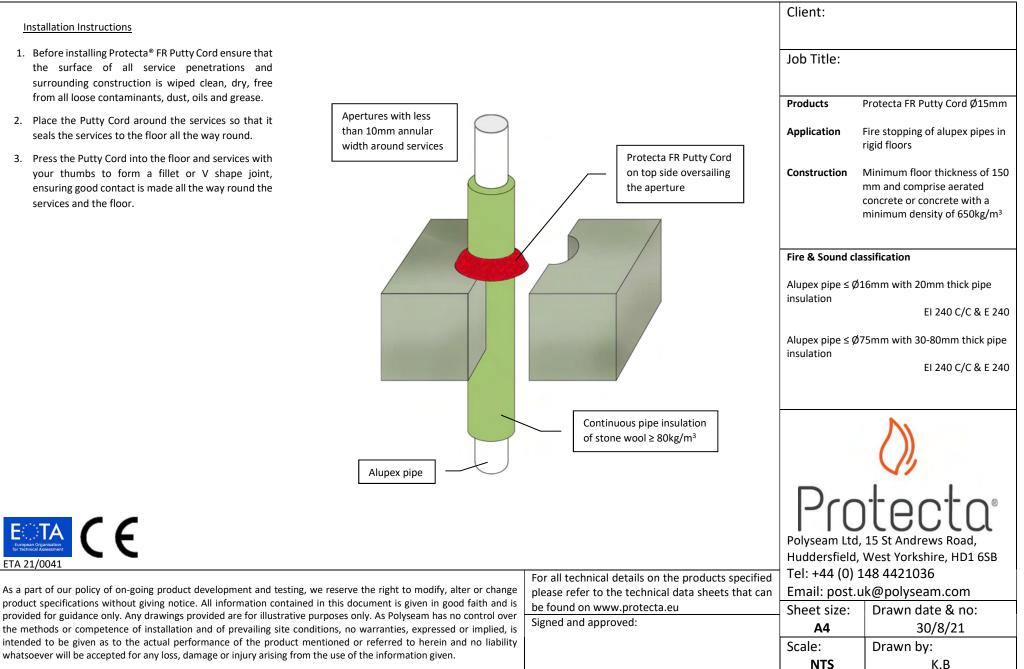
Signed and approved:



- 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 seals the services to the floor all the way round.
- 3. 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.

Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. 2 Place the Putty Cord around the services so that it Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the floor all the way round. Apertures with less than 10mm annular width around services			Fire stopping of alupex pipes in rigid floors
3. 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.	Protecta FR Putty Cord on top side oversailing the aperture		Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
		Fire & Sound cla	ssification
		Alupex pipe ≤ Ø	
		Alupex pipe ≤ Ø	EI 240 C/C & E 240 75mm EI 30 C/C & E 45
Alupex pipe			$\langle \rangle$
		Polyseam Ltd, Huddersfield,	15 St Andrews Road, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change	For all technical details on the products specified	Tel: +44 (0) 1	
product specifications without giving notice. All information contained in this document is given in good faith and is	please refer to the technical data sheets that can be found on www.protecta.eu	Email: post.u Sheet size:	Ik@polyseam.com Drawn date & no:
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intended to be given as to the actual performance of the product mentioned or referred to herein and no liability		Scale:	Drawn by:
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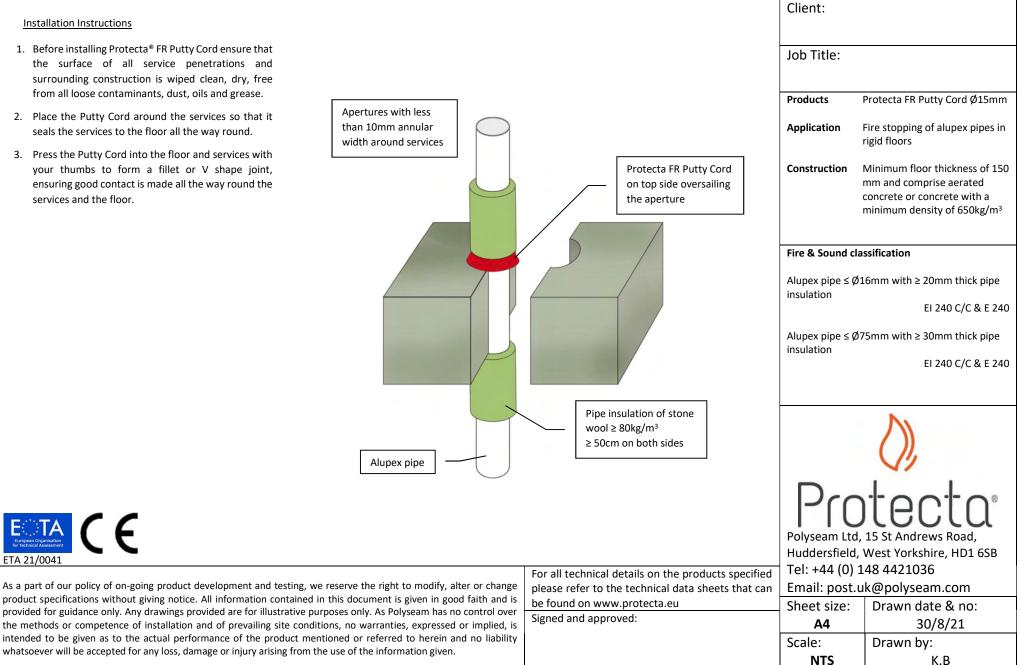
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- 1. Before installing Prote the surface of al surrounding construc from all loose contam
- 2. Place the Putty Cord seals the services to
- 3. Press the Putty Cord your thumbs to for ensuring good contac services and the floor

Installation Instructions		Client:	
 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. 		Job Title:	
 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round. 3. 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. 	Protecta FR Putty Cord on top side oversailing	Products Application Construction	Protecta FR Putty Cord Ø15mm Fire stopping of alupex pipes in rigid floors Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a
	the aperture	Fire & Sound cl Alupex pipe ≤ Ø continuous pipe	75mm with 20-50mm thick
Alupex pipe	Continuous pipe insulation of glass wool ≥ 75kg/m ³		tecta , 15 St Andrews Road, West Yorkshire, HD1 65B
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 www.protecta.eu Signed and approved:		148 4421036 uk@polyseam.com Drawn date & no: 30/8/21 Drawn by: K.B

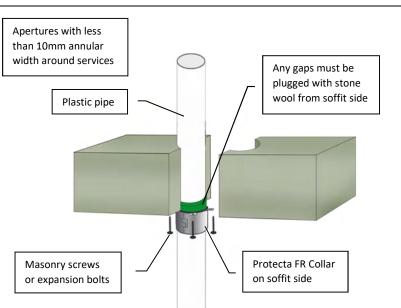
- 1. Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. Place the Putty Cord around the services so that it seals the services to the floor all the way round.
- 3. 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.



Client: Installation Instructions 1. Before fitting the collar ensure that any gaps Job Title: between the pipe insulation and the separating Apertures with less than element are sealed with 20mm deep stonewool to 10mm annular width plug the opening. Products Protecta FR Collar around services Stonewool 2. Place a suitable collar around the pipe insulation and Any gaps must be ensure that the collar shell and fixing lugs are Alupex pipe plugged with stone Application Fire stopping of alupex pipes in positioned tightly to the surface of the floor, so that rigid floors wool from soffit side the fixings can be inserted fully. Construction Minimum floor thickness of 150 3. Where the surface is uneven, apply a sealing bead of mm and comprise aerated Protecta[®] FR Acrylic between the floor and the collar concrete or concrete with a shell. minimum density of 650kg/m³ 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts. Fire & Sound classification Alupex pipe \leq Ø75mm with 9mm thick pipe insulation with $\leq Ø110$ mm FR Collar at 50 mm height EI 120 C/C & E 120 Protecta FR Collar Masonry screws Alupex pipe ≤ 075 mm with 10 – 50 mm thick or expansion bolts to the soffit side pipe insulation with ≤ 0110 mm FR Collar at 50mm height, or Ø125-200mm at 60mm height EI 90 C/C & E 120 Continuous elastomeric insulation Sound reduction (seal only) Rw 58dB Protecto Europan Organisation for Technical Assessment Polyseam Ltd. 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 ETA 21/0070 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is Drawn date & no: be found on www.protecta.eu Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 30/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

Installation Instructions			Client:	
 Before fitting the collar ensure that any gaps between the pipes and the separating element are sealed with 20mm deep stonewool to plug the 	Apertures with less than		Job Title:	
opening. 2. Place a suitable collar around the pipes and ensure	10mm annular width around services		Products	Protecta FR Collar Stonewool
that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.	Plastic pipes	Any gaps must be plugged with stone wool from soffit side	Application	Fire stopping of PEX plastic pipes in rigid floors
 Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the floor and the collar shell. Attach the collar with ≥ Ø4 x 40mm long masonry screws or expansion bolts. 			Construction	Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
	Masonry screws	dEOmm Durtante ED	Fire & Sound cl PEX pipe-in-pip bundle ≤ Ø50m	es ≤ Ø25mm, single, or in a
	or expansion bolts	Ø50mm Protecta FR Collar at 50mm height	Sound reductio	
				$\langle \rangle$
Existence for the formation of the forma				, 15 St Andrews Road, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and testir product specifications without giving notice. All information contai	ned in this document is given in good faith and is	For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu		148 4421036 uk@polyseam.com Drawn date & no:
provided for guidance only. Any drawings provided are for illustrati the methods or competence of installation and of prevailing site of intended to be given as to the actual performance of the product	onditions, no warranties, expressed or implied, is	Signed and approved:	A4 Scale:	30/8/21
whatsoever will be accepted for any loss, damage or injury arising fr			Scale: NTS	Drawn by: K.B

- 1. Before fitting the collar ensure that any gaps between the pipe and the separating element are sealed with 20mm deep stonewool to plug the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.



Services	Min.	Classification	Services	Min.	Classification
	Collar			Collar	
	Height			Height	
≤ Ø50mm PVC-U & PVC-C	30mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90)	≤ Ø50mm PP		EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/
≤ Ø90mm PVC-U & PVC-C	50mm	EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U	≤ Ø110mm PP	50mm	EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U
≤ Ø110mm PVC-U & PVC-C	30mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U	≤ Ø140mm PP	60mm	EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U
≤ Ø110mm PVC-U & PVC-C	50mm	EI 120 C/C, EI 90 U/C (E 120), EI 60 C/U	≤ Ø160mm PP	60mm	EI 180 C/C, EI 180 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	≤ Ø200mm PP	60mm	EI 120 C/C
≤ Ø200mm PVC-U & PVC-C	60mm	EI 60 C/C (E 120)	≤ Ø250mm PP	75mm	EI 60 C/C
≤ Ø315mm PVC-U & PVC-C	75mm	EI 60 C/C	Ø315x28.6mm PP	75mm	EI 60 C/C
Ø400x15.3mm PVC-U & PVC-C	100mm	EI 60 C/C	≤ Ø400mm PP	100mm	EI 30 C/C
≤ Ø55mm 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 240 C/C, EI 240 U/C, EI 60 C/U, EI 60 U/U			
≤ Ø110mm PE, ABS & SAN+PVC	30mm	EI 60 C/C, EI 60 U/C			
≤ 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			
≤ Ø200mm PE, ABS & SAN+PVC		EI 120 C/C (E 240)			
≤ Ø250mm PE, ABS & SAN+PVC	75mm	EI 240 C/C			E©TA C
Ø315x18.7mm PE, ABS & SAN+PV	C 75mm	EI 240 C/C			European Organisation
Ø400x36.3mm PE, ABS & SAN+PV	C100mm	EI 90 C/C			for Technical Assessment
				1	ETA 21/0070
				For all tee	chnical details on the products specifi

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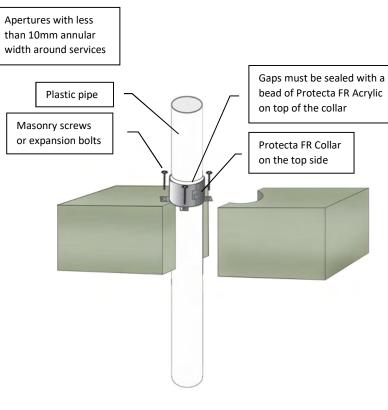
whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

	Client:			
Any gaps must be plugged with stone	Job Title:			
wool from soffit side	Products	Protecta FR Collar Stonewool		
	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 ³		
Protecta FR Collar on soffit side				
	Fire & Sound cl	assification		
Min. Classification Collar		ns in tables on the left. For full lease refer to the Installation		
Height 30mm EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/				
50mm EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U		Sound reduction (seal only) 58dB		
60mm EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U 60mm EI 180 C/C, EI 180 U/C, EI 60 C/U, EI 60 U/U				
60mm EI 120 C/C	-			
75mm EI 60 C/C				
75mm EI 60 C/C 100mm EI 30 C/C		$\langle \rangle$		
ETA 21/0070 For all technical details on the products specifie	Polyseam Ltd Huddersfield,	, 15 St Andrews Road, West Yorkshire, HD1 6SB 148 4421036		
please refer to the technical data sheets that ca		uk@polyseam.com		
be found on www.protecta.eu	Sheet size:	Drawn date & no:		
Signed and approved:	A4	27/7/19		
	Scale:	Drawn by:		

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- 1. Place a suitable collar around the pipe and ensure that the collar shell and 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 collar shell.
- Attach the collar with ≥ Ø4 x 40mm long masonry screws or expansion bolts.
- After fitting the collar ensure that the gaps between the pipe and the collar are sealed with a bead of Protecta[®] FR Acrylic to cover the opening.



Services	Minimum Collar Height	Classification
≤ Ø50mm PVC-U & PVC-C	50mm	EI 240 C/C, EI 240 U/C
≤ Ø110mm PVC-U & PVC-C	50mm	EI 120 C/C, EI 120 U/C
≤ Ø160mm PVC-U & PVC-C	60mm	EI 180 C/C, EI 180 U/C (E 240)
≤ Ø50mm PE, ABS & SAN+PVC	50mm	EI 240 C/C, EI 240 U/C
≤ Ø110mm PE, ABS & SAN+PVC	50mm	EI 60 C/C, EI 60 U/C (E 240)
≤ Ø160mm PE, ABS & SAN+PVC	60mm	EI 60 C/C, EI 60 U/C
≤ Ø50mm PP	50mm	EI 180 C/C, EI 180 U/C (E 240)
≤Ø110mm PP	50mm	EI 90 C/C, EI 90 U/C (E 180)
≤ Ø160mm PP	60mm	EI 60 C/C, EI 60 U/C (E 240)



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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.

	Client:				
	Job Title:				
	Products	Protecta FR Collar Protecta FR Acrylic			
	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 ³			
	Fire & Sound classification				
		ons in tables on the left. For full please refer to the Installation			
	Sound reductio	n (seal only) 58dB			
		$\langle \rangle$			
	Pro	tecta® J, 15 St Andrews Road,			
		, West Yorkshire, HD1 6SB			
pecified		148 4421036			
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Client: Installation Instructions 1. Before fitting the collar ensure that any gaps Job Title: between the pipe insulation and the separating Apertures with less than element are sealed with 20mm deep stonewool to 10mm annular width plug the opening. Products Protecta FR Collar around services Stonewool 2. Place a suitable collar around the pipe insulation and Any gaps must be Application Fire stopping of insulated ensure that the collar shell and fixing lugs are Plastic pipe plugged with stone plastic pipes in rigid floors positioned tightly to the surface of the floor, so that Minimum floor thickness of 150 wool from soffit side Construction the fixings can be inserted fully. mm and comprise aerated concrete or concrete with a 3. Where the surface is uneven, apply a sealing bead of minimum density of 650kg/m³ Protecta[®] FR Acrylic between the floor and the collar Fire & Sound classification shell. 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry PE pipe $\leq Ø160$ mm with wall thickness 3.0 screws or expansion bolts. 9.5mm and 9mm thick pipe insulation EI 180 C/C & E 180 PE pipe $\leq Ø160$ mm with wall thickness 3.0 -9.5mm and 10 – 50mm thick pipe insulation ≤ Ø110mm Protecta FR Collar EI 120 C/C & E 120 Masonry screws at 50mm height, or Ø125 or expansion bolts 200mm at 60mm height, or PP pipe $\leq Ø160$ mm with wall thickness 1.8 – Ø250 - 315mm at 75mm height 9.1mm and 9mm thick pipe insulation EI 120 C/C & E 180 Continuous elastomeric PP pipe $\leq Ø160$ mm with wall thickness 1.8 – insulation 9.1mm and 10 – 50mm thick pipe insulation EI 60 C/C & E 60 Sound reduction (seal only) Rw 58dB Protecto ECTA C C Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB ETA 21/0070 Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is Drawn date & no: Sheet size: be found on www.protecta.eu provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 30/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

Client: Apertures with less Installation Instructions than 10mm annular Any gaps must be width around services 1. Before fitting the collar ensure that any gaps plugged with stone Job Title: between the pipe and the separating element are wool from soffit side sealed with 20mm deep stonewool to plug the Composite plastic pipe opening. Products Protecta FR Collar Stonewool 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned Application Fire stopping of composite tightly to the surface of the floor, so that the fixings plastic pipes in rigid floors can be inserted fully. Minimum floor thickness of 150 3. Where the surface is uneven, apply a sealing bead of Construction mm and comprise aerated Protecta[®] FR Acrylic between the floor and the collar concrete or concrete with a shell. minimum density of 650kg/m³ Masonry screws Protecta FR Collar 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry or expansion bolts on soffit side screws or expansion bolts. Fire & Sound classification Services Minimum Collar Classification Height Fire classifications in tables on the left. For full ≤ Ø32mm Aguatherm Green SDR9 EI 240 C/C 30mm specifications, please refer to the Installation ≤ Ø50mm Aguatherm Green SDR9 50mm EI 240 C/C Instructions. ≤ Ø110mm Aquatherm Green SDR9 EI 120 C/C 50mm ≤ Ø50mm BluePower 50mm EI 180 C/C. EI 180 U/C. EI 180 C/U. EI 180 U/U Sound reduction (seal only) ≤ Ø110mm BluePower 50mm EI 180 C/C. EI 180 U/C. EI 180 C/U 58dB Ø125mm BluePower EI 180 C/C. EI 180 U/C. EI 180 C/U 60mm Ø160mm BluePower 60mm EI 240 C/C, EI 240 U/C, EI 240 C/U EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø50mm Geberit Silent-PP 50mm ≤ Ø110mm Geberit Silent-PP 50mm EI 180 C/C, EI 180 U/C, EI 180 C/U ≤ Ø50mm Polo-Kal NG pipes 50mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø110mm Polo-Kal NG pipes 50mm EI 240 C/C, EI 240 U/C, EI 240 C/U Ø125mm Polo-Kal NG pipes 60mm EI 240 C/C, EI 240 U/C Ø160mm Polo-Kal NG pipes 60mm EI 240 C/C, EI 240 U/C (E 240 C/U) ≤ Ø50mm Rehau Raupiano Plus 50mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø110mm Rehau Raupiano Plus 50mm EI 120 C/C, EI 120 U/C, EI 120 C/U Protect Ø125mm Rehau Raupiano Plus EI 180 C/C. EI 180 U/C. EI 180 C/U 60mm Ø160mm Rehau Raupiano Plus 60mm EI 240 C/C. EI 240 U/C (E 240 C/U) European Organisation for traditical Assessment Ø 50mm Uponor Decibel EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U 50mm ≤ Ø110mm Uponor Decibel 50mm EI 120 C/C. EI 120 U/C. EI 120 C/U Polyseam Ltd, 15 St Andrews Road, ≤ Ø50mm Wavin SiTech EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U 50mm Huddersfield, West Yorkshire, HD1 6SB ≤ Ø110mm Wavin SiTech EI 180 C/C, EI 180 U/C, EI 180 C/U 50mm ETA 21/0070 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 30/8/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

Client: Installation Instructions 1. Before fitting the collar ensure that any gaps Job Title: between the pipes and the separating element are Apertures with less than sealed with 20mm deep stonewool to plug the 10mm annular width opening. Products Protecta FR Collar around services Stonewool 2. Place a suitable collar around the pipes and ensure Any gaps must be Application Fire stopping of plastic pipes that the collar shell and fixing lugs are positioned plugged with stone and cables in rigid floors tightly to the surface of the floor, so that the fixings Minimum floor thickness of 150 wool from soffit side Construction can be inserted fully. Plastic pipes mm and comprise aerated concrete or concrete with a 3. Where the surface is uneven, apply a sealing bead of minimum density of 650kg/m³ Protecta[®] FR Acrylic between the floor and the collar Fire & Sound classification shell. 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry PVC pipes $\leq Ø32$ mm, single, or in a bundle screws or expansion bolts. \leq Ø160mm with wall thickness 1.0 – 2.4mm EI 90 C/U & E 90 PE & ABS pipes $\leq Ø32$ mm, single, or in a bundle \leq Ø160mm with wall thickness 2.0 – 3.0mm EI 90 C/U & E 90 Masonry screws ≤ Ø110mm FR Collar at 50mm or expansion bolts height, or Ø125-160mm FR PP pipes $\leq Ø32$ mm, single, or in a bundle \leq Ø160mm with wall thickness 1.8 – 4.4mm Collar at 60mm height EI 90 C/U & E 90 Sound reduction (seal only) Pipes with or without Rw 58dB cables $\leq Ø21$ mm, singles or in bundles Protect Europan Organisation for Technical Assessment Polyseam Ltd, 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0070 Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 30/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

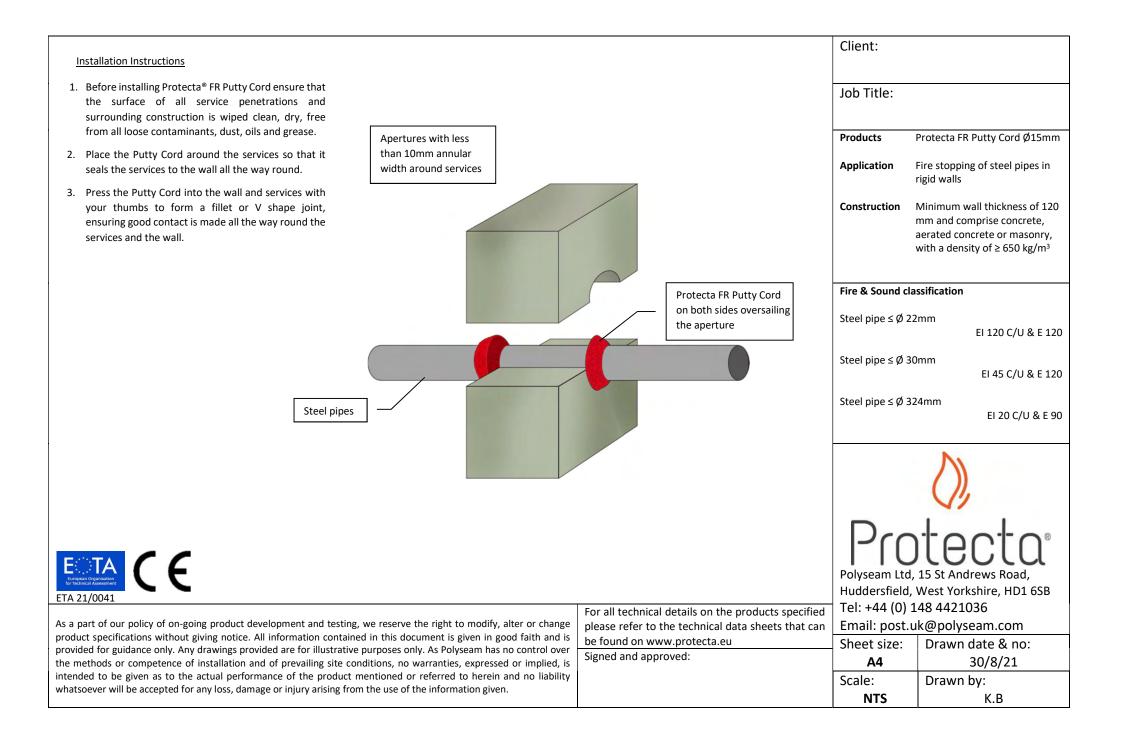
Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 	-	Job Title:	
from all loose contaminants, dust, oils and grease. 2. Place the Putty Cord around the services so that it		Products	Protecta FR Putty Cord Ø15mm
seals the services to the wall all the way round. Apertures with less than 10mm annular		Application	Fire stopping of cables in rigid walls
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.		Construction	Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of \geq 650 kg/m ³
	Protecta FR Putty Cord on both sides oversailing	Fire & Sound cla	assification
	the aperture	Cables ≤ Ø 21mi ≤ Ø 50mm	m, single or in a bundle EI 120 & E 120
		Cables ≤ Ø 80mı ≤ Ø 50mm	m, single or in a bundle
Cables			EI 60 & E 60
			$\langle \rangle$
		Polyseam Ltd,	tecto 15 St Andrews Road,
ETA 21/0041	For all technical details on the products specified		West Yorkshire, HD1 6SB 148 4421036
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provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over	be found on www.protecta.eu Signed and approved:	Sheet size: A4	Drawn date & no: 29/5/18
intended to be given as to the actual performance of the product mentioned or referred to herein and no liability		Scale:	29/5/18 Drawn by:
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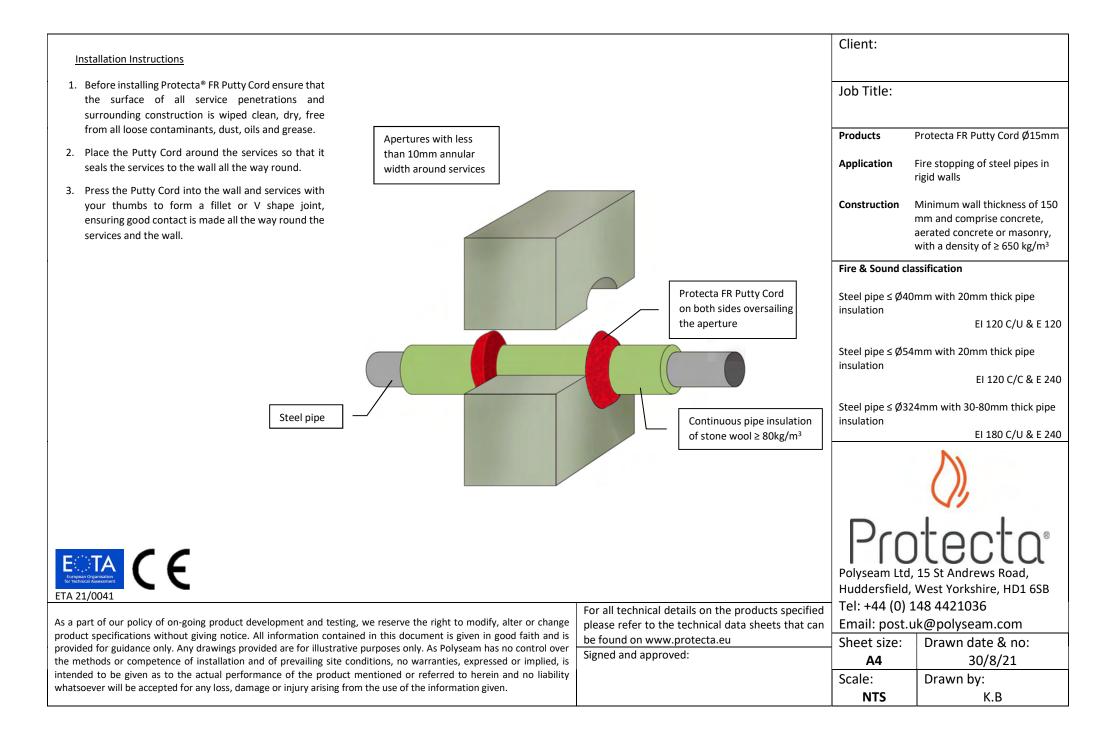
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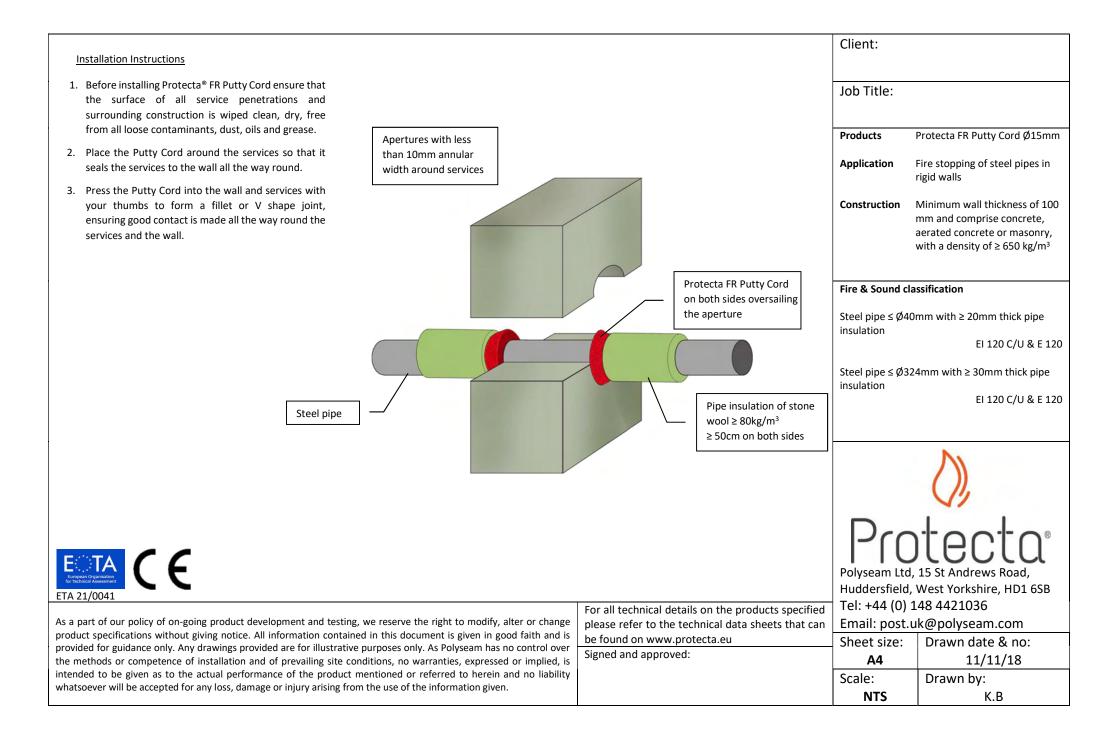
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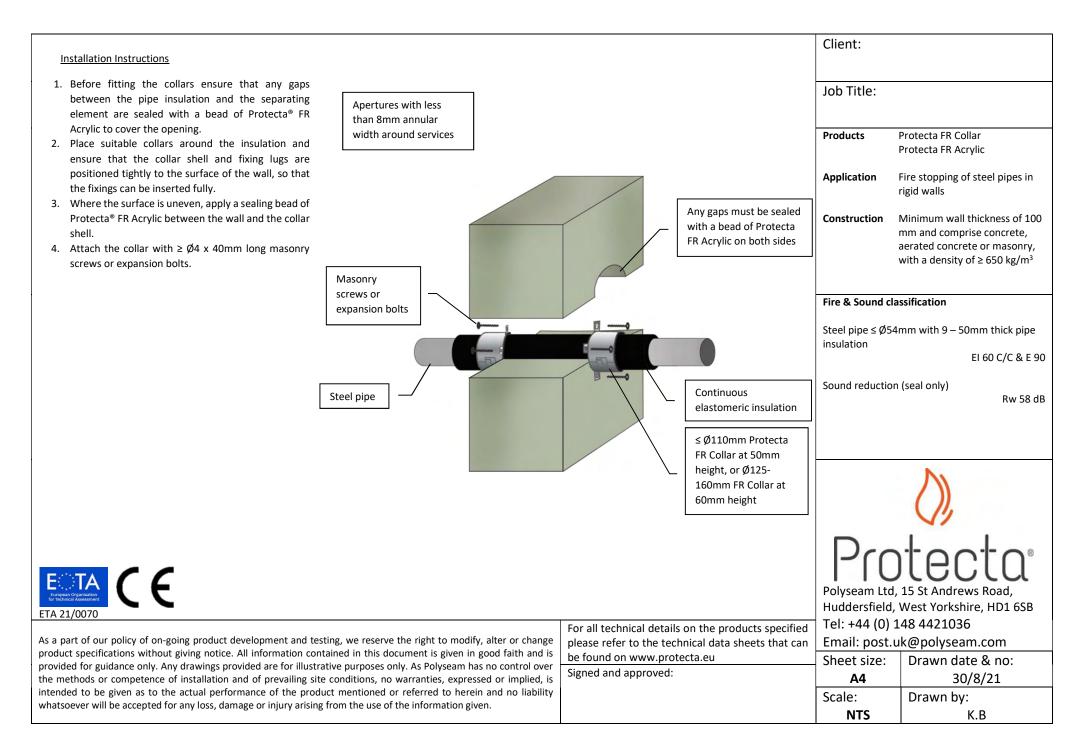
- 1. Before fitting the collars ensure that any gaps between the cable bundle and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place a suitable collar around the cable bundle and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

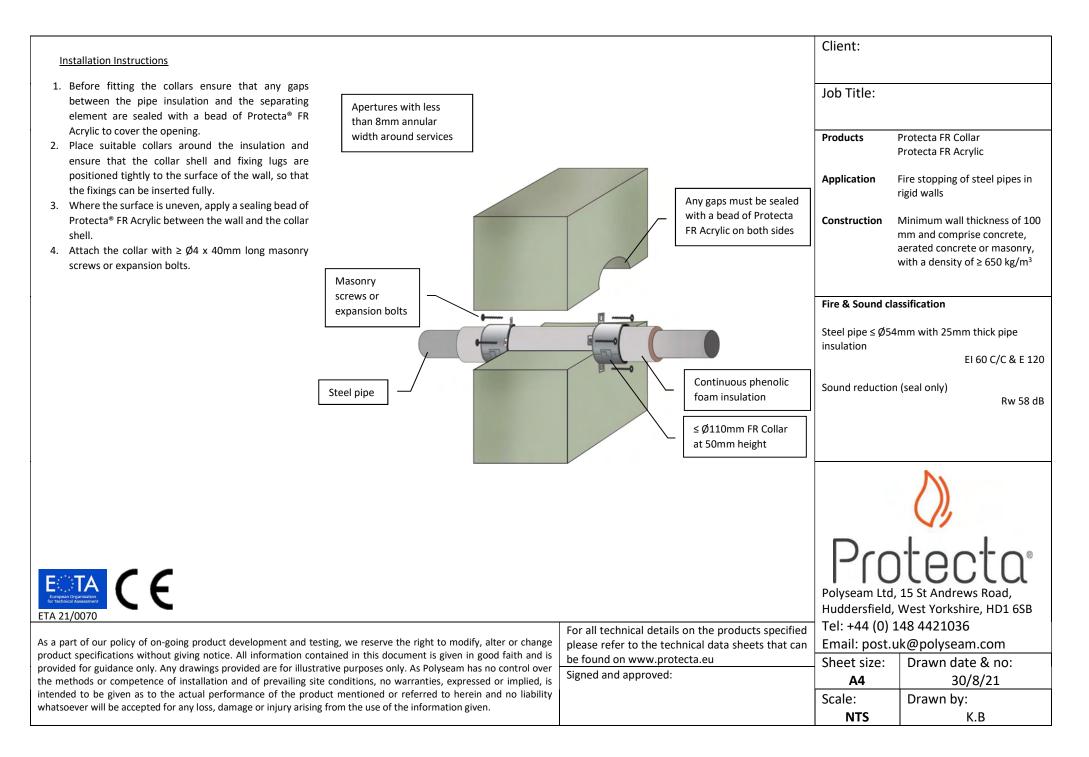
Client: Job Title: Products Protecta FR Collar Protecta FR Acrylic Apertures with less than 10mm annular Application Fire stopping of cable bundles width around services in rigid walls Construction Minimum wall thickness of 100 Any gaps must be sealed mm and comprise concrete. with a bead of Protecta aerated concrete or masonry, Masonry screws FR Acrylic on both sides with a density of $\geq 650 \text{ kg/m}^3$ or expansion bolts Fire & Sound classification Cable bundle Cables $\leq \emptyset$ 21mm, in a bundle $\leq \emptyset$ 110mm, with collars $\leq Ø110$ mm at ≥ 30 mm height EI 60 & E 120 Cables $\leq \emptyset$ 80mm, in a bundle $\leq \emptyset$ 110mm, with collars ≤ 0110 mm at ≥ 50 mm height EI 60 & E 120 Cables $\leq \emptyset$ 80mm, in a bundle $\leq \emptyset$ 160mm, with collars $\leq Ø160$ mm at ≥ 60 mm height Protecta FR Collar to EI 60 & E 120 both sides of the wall Sound reduction (seal only) 58dB Protect Polyseam Ltd, 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 27/7/19 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

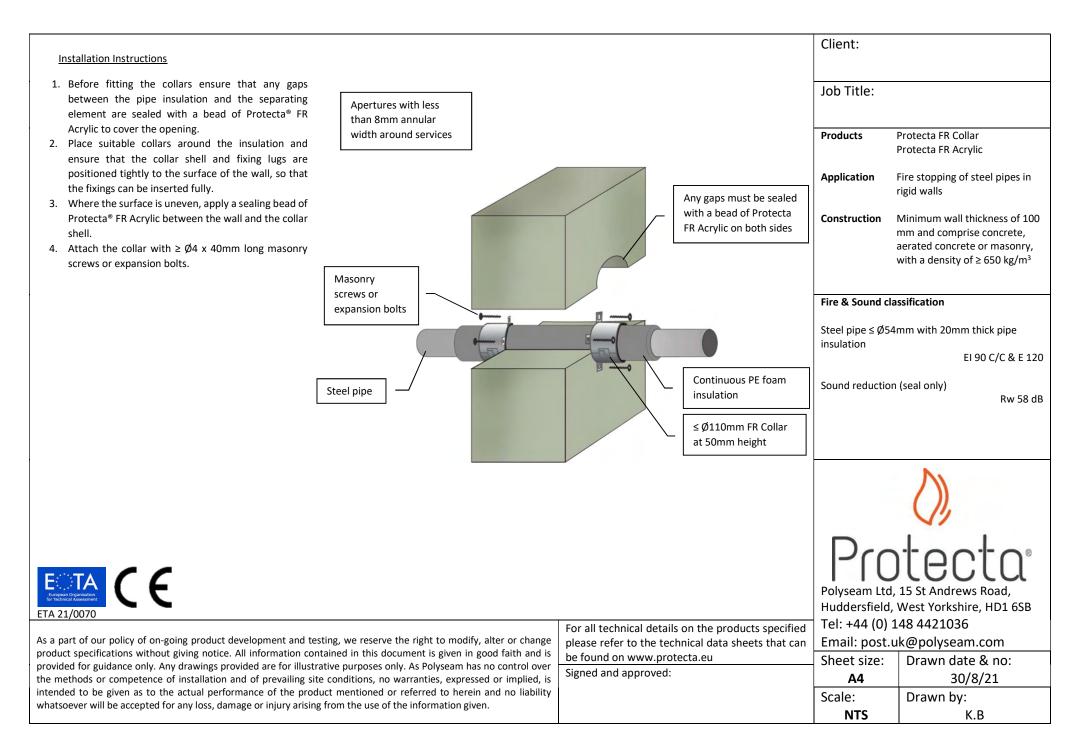


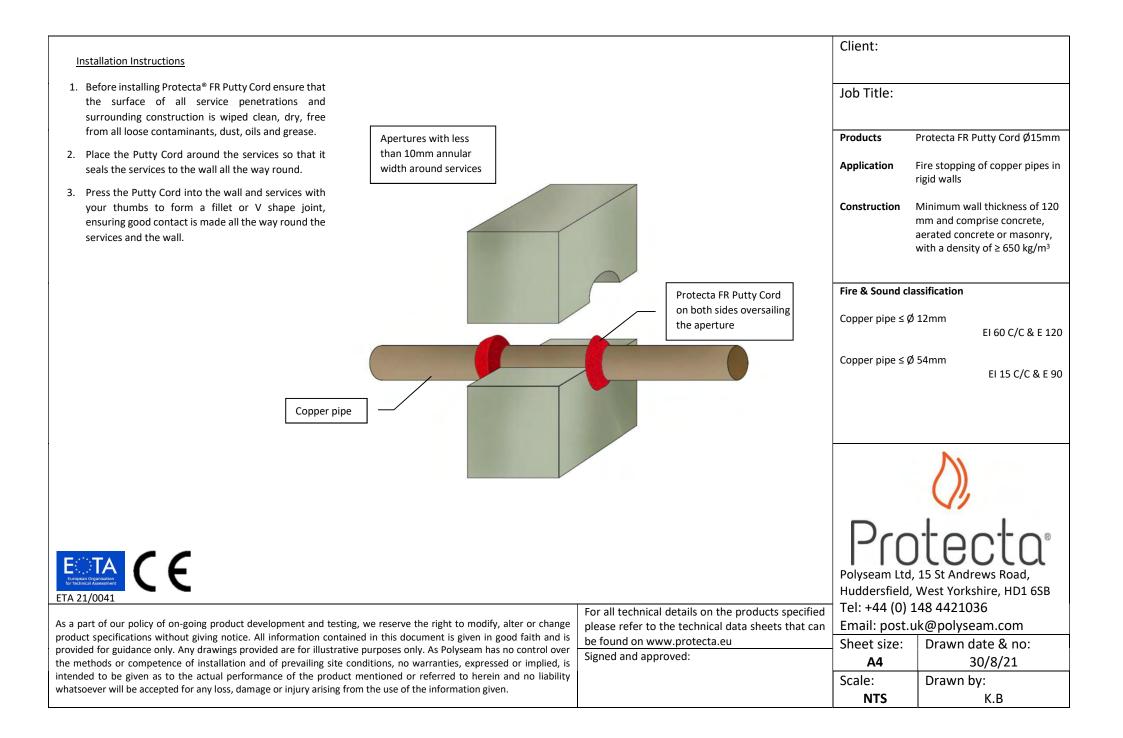


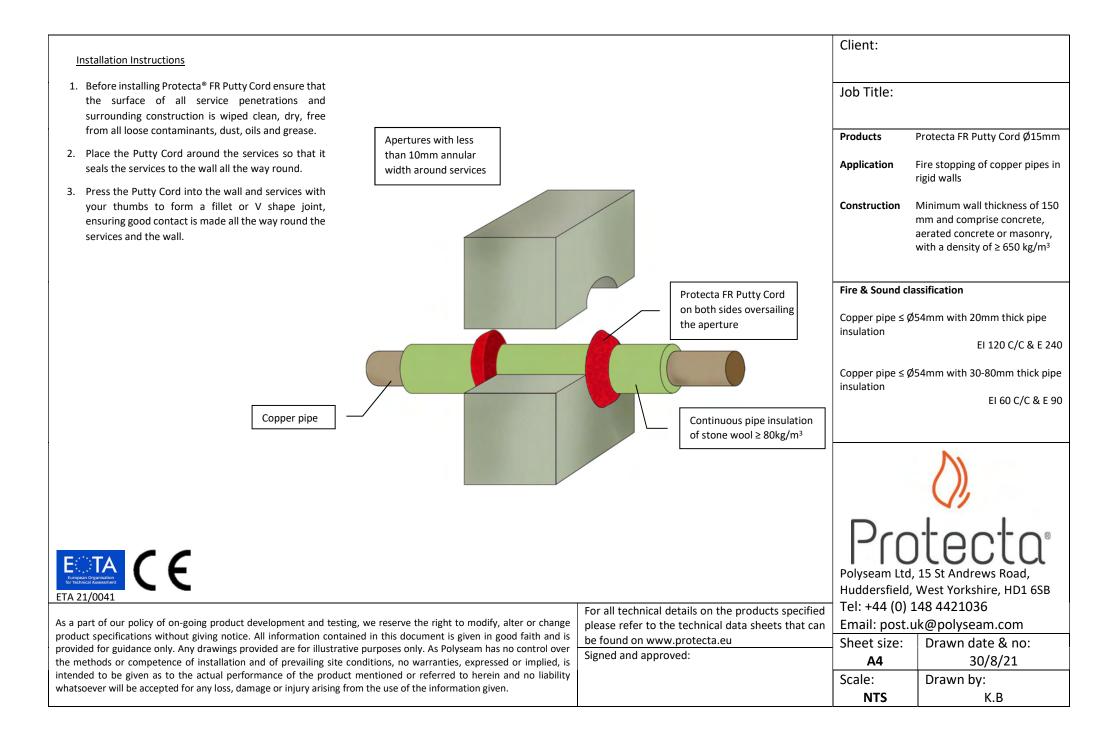


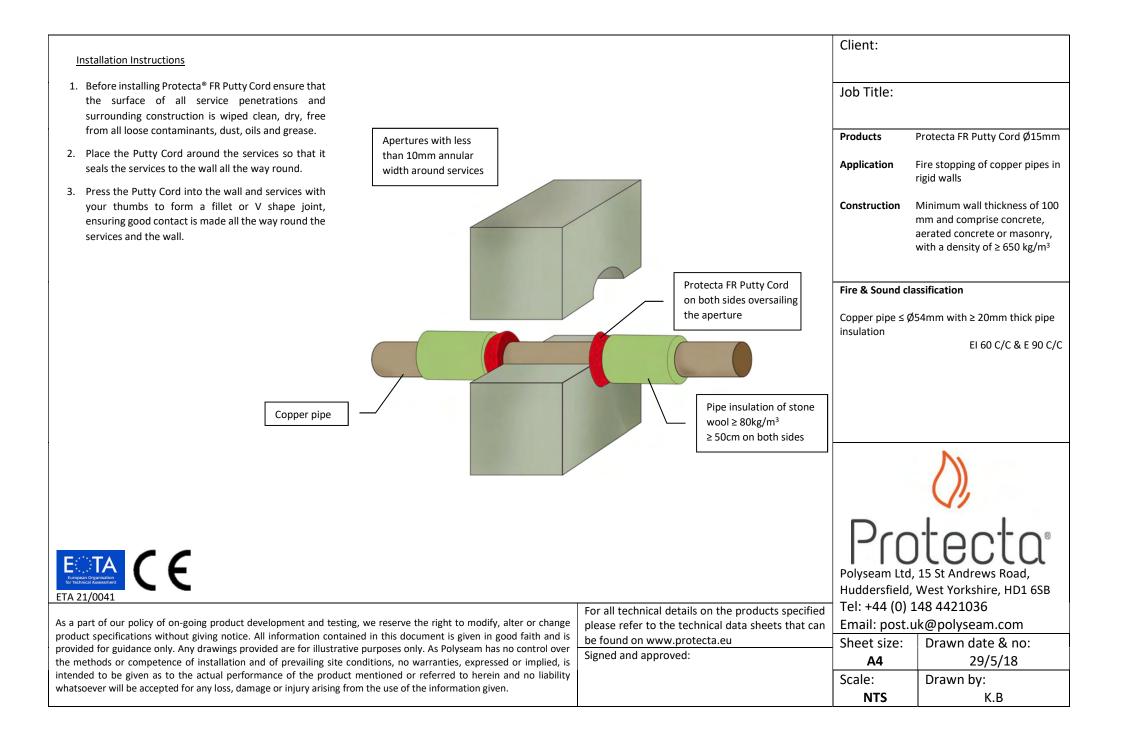


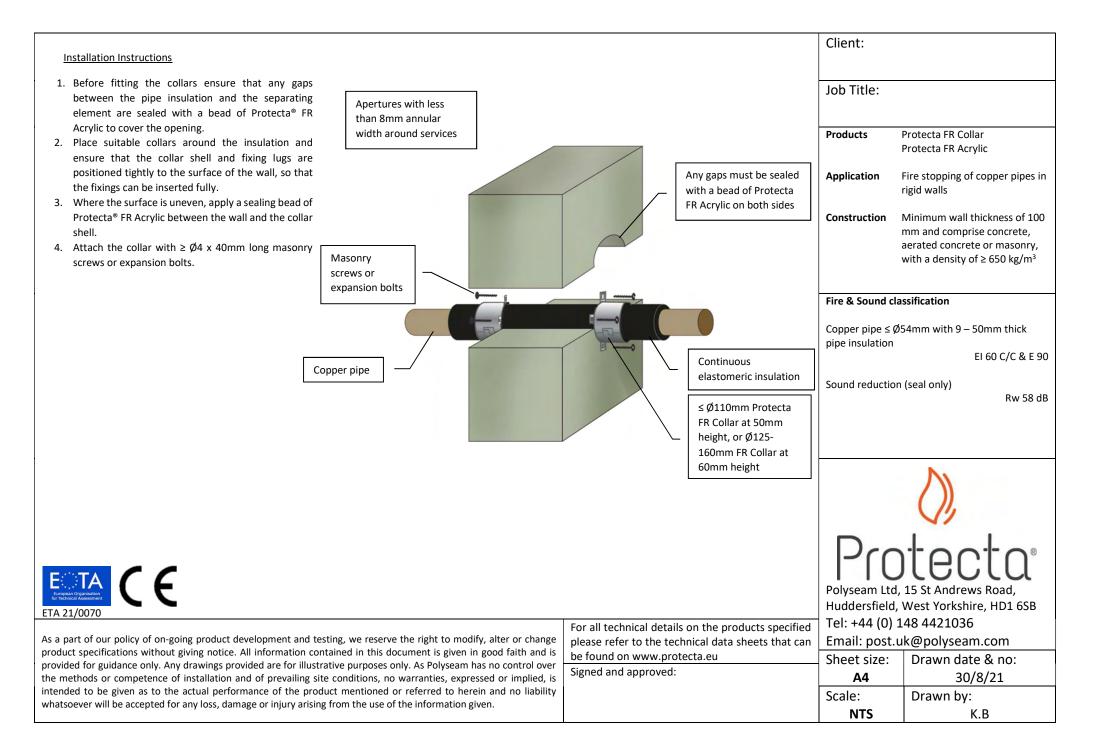


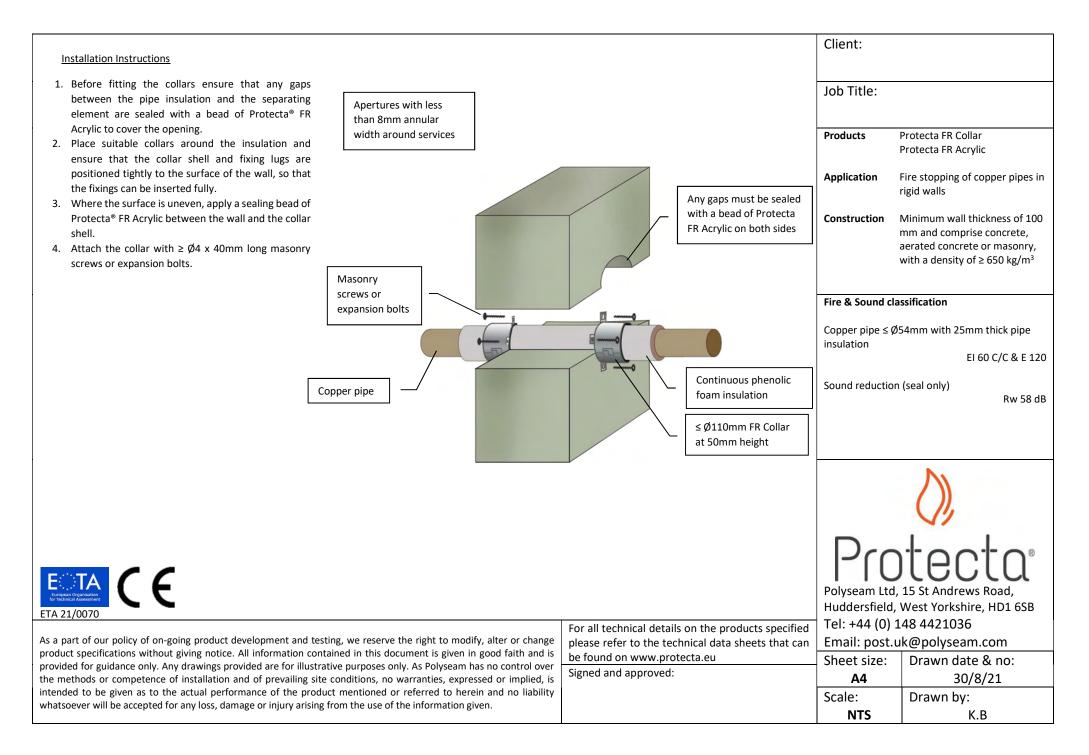


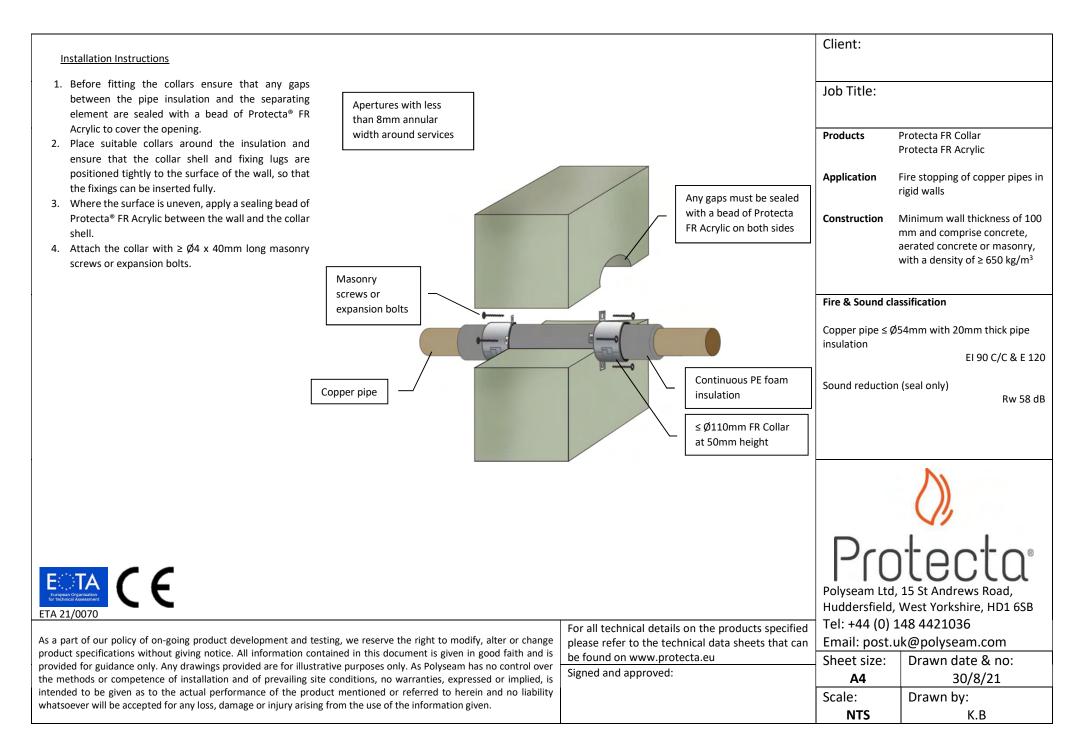


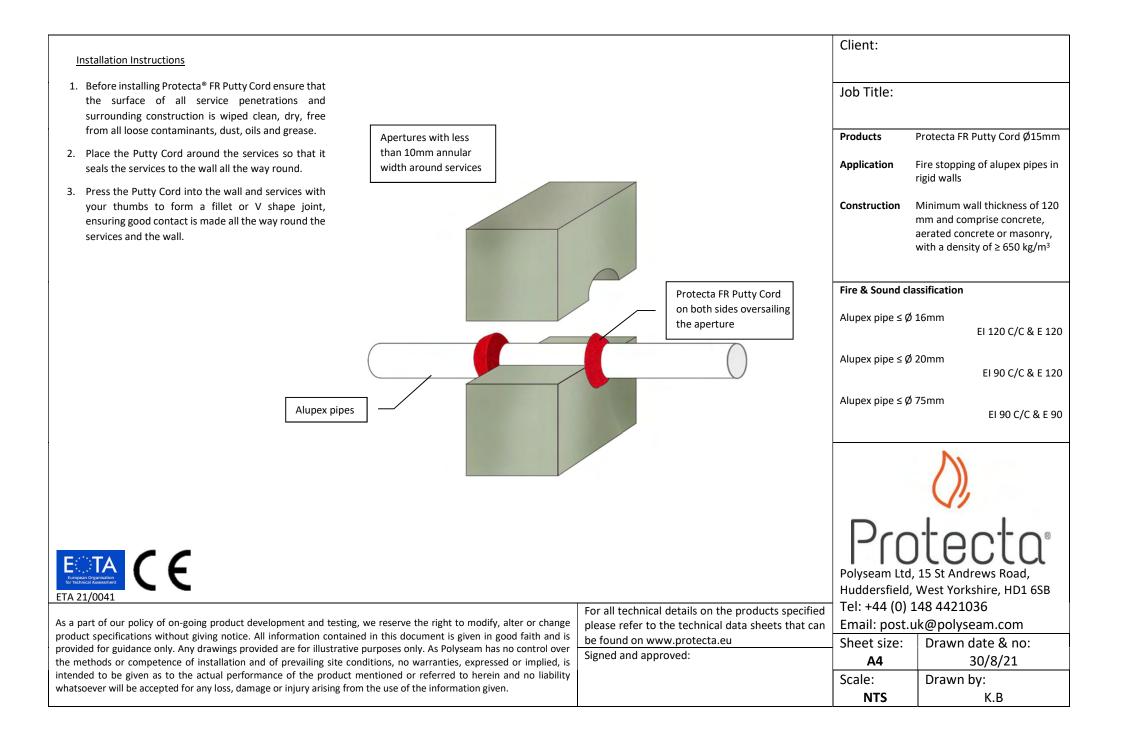


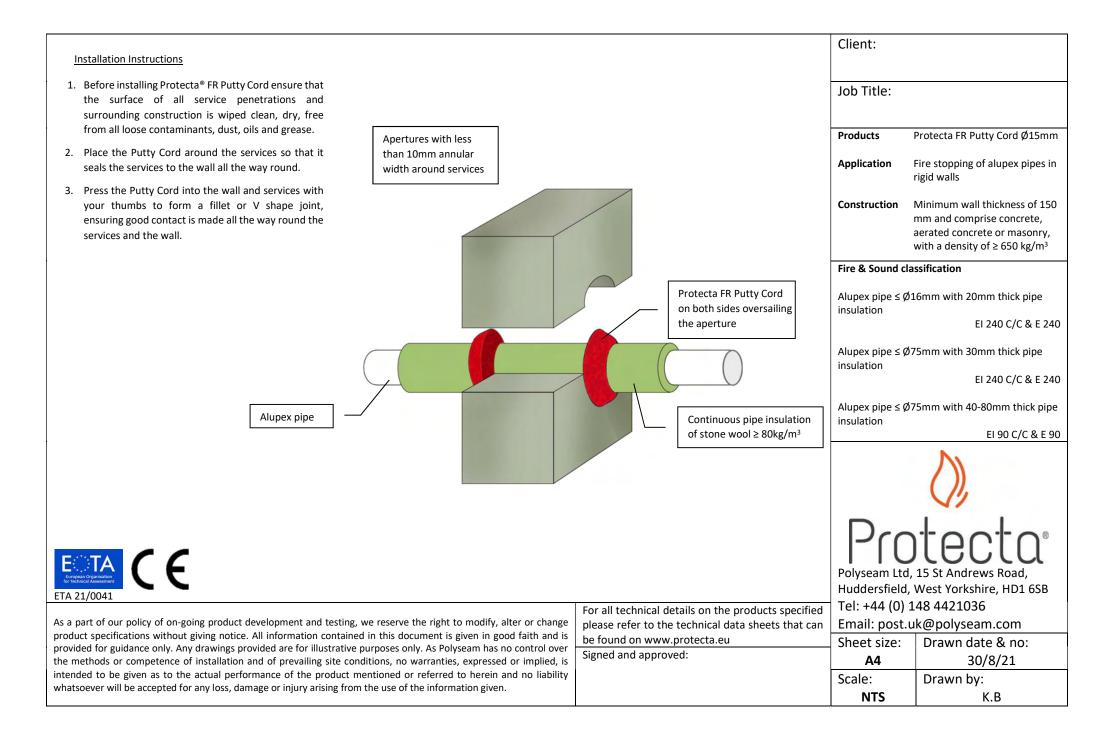


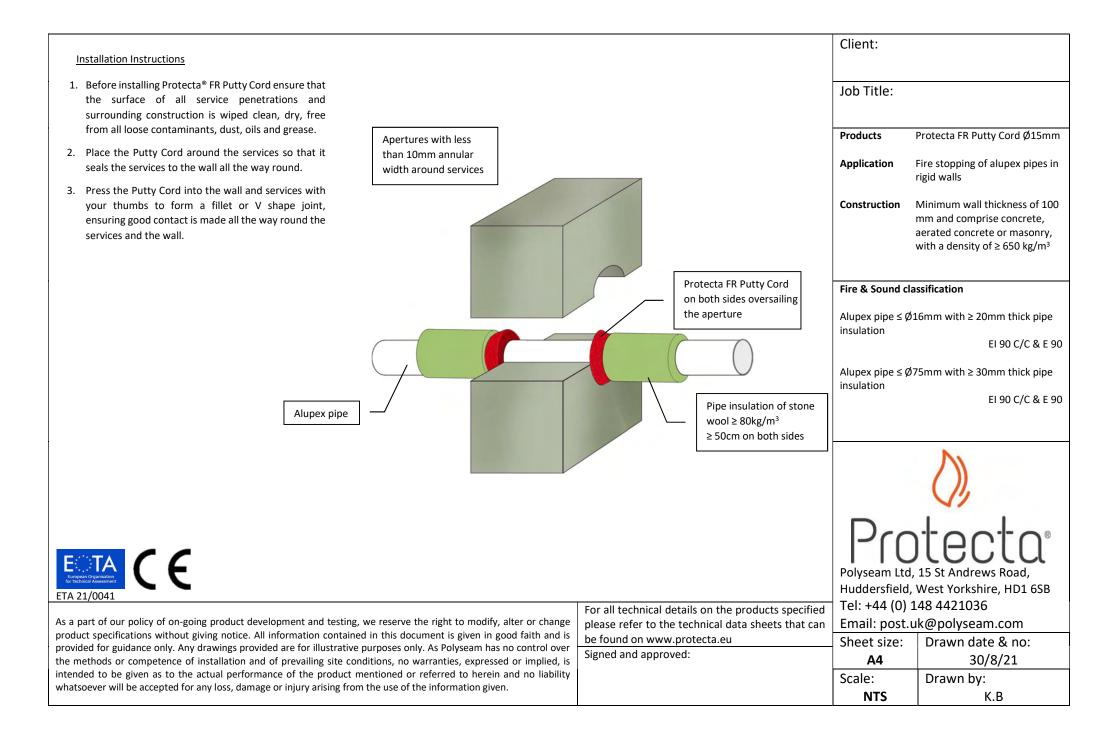


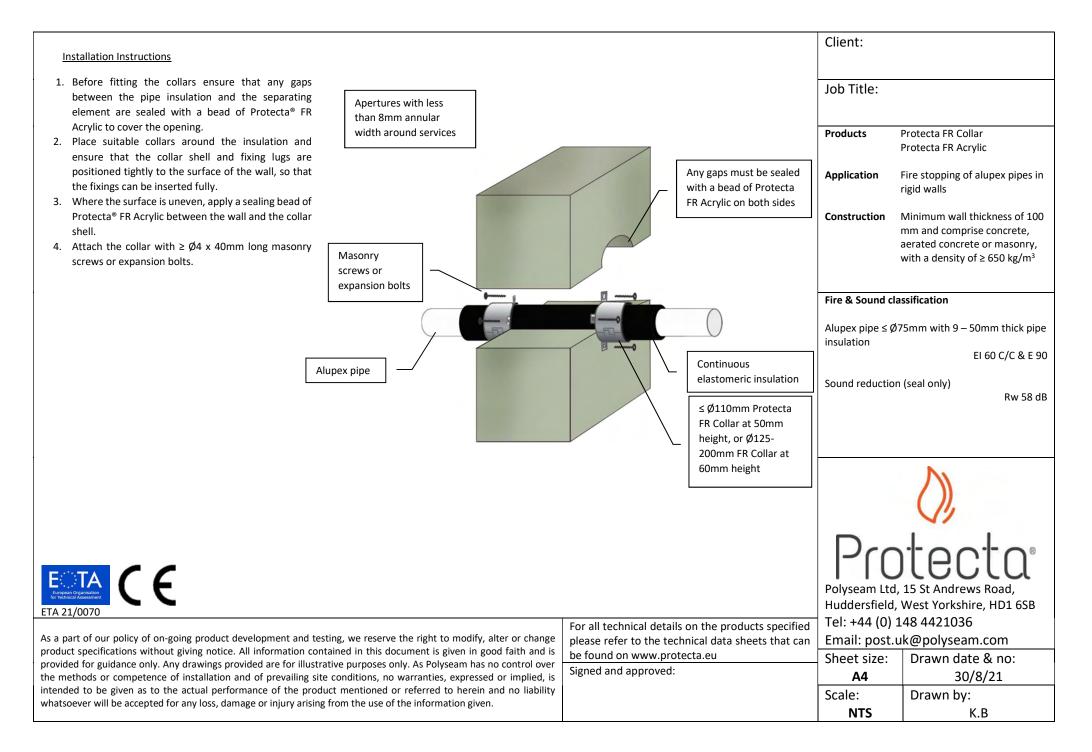


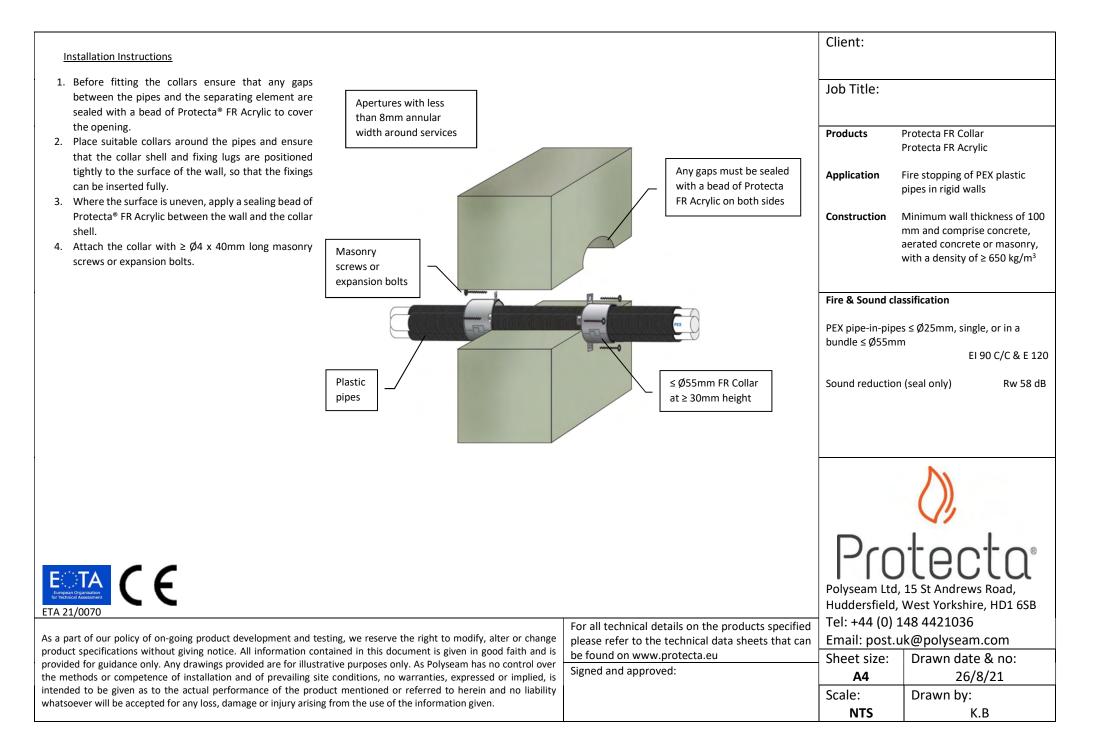




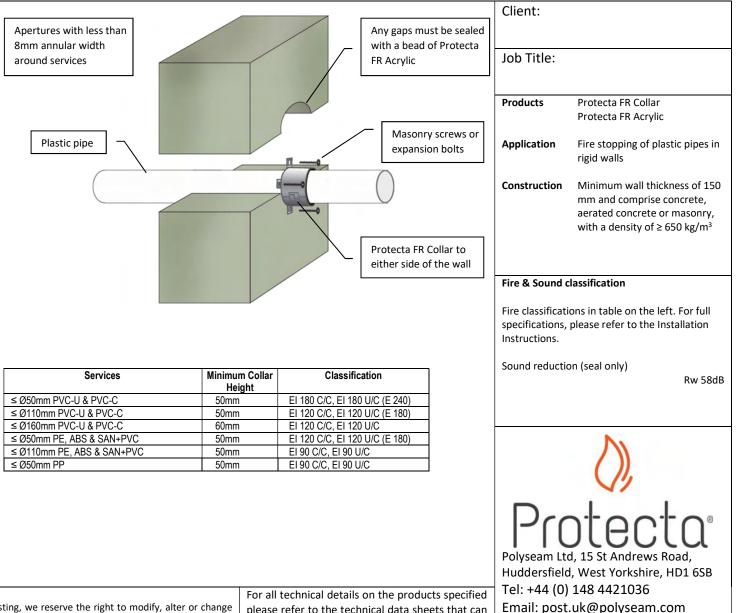








- Before fitting the collar ensure that any gaps between the pipe and the separating element are sealed with a bead of Protecta[®] FR Acrylic to cover the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the 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 and the collar shell.
- Attach the collar with ≥ Ø4 x 40mm long masonry screws or expansion bolts.



<u>Е:::ТА</u> <u>Сточени Аченини</u> ETA 21/0070

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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:

Drawn date & no:

Drawn by:

30/8/21

K.B

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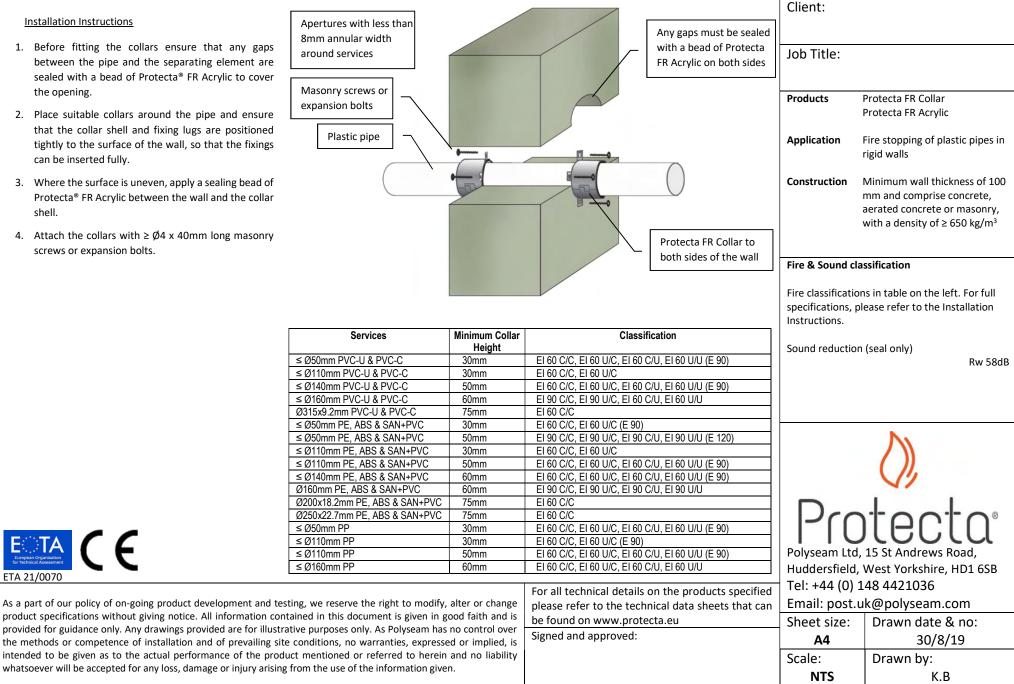
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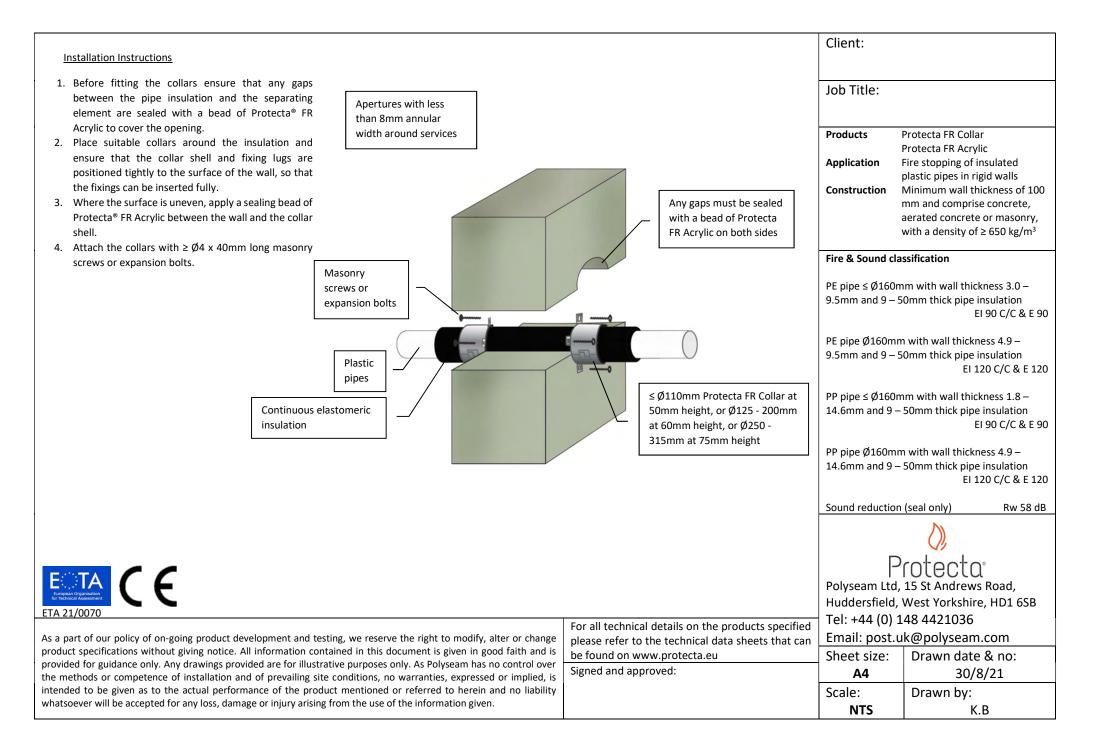
European Organisation for technical Assessment

- 1. Before fitting the collars ensure that any gaps between the pipe and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collars with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.



- 1. Before fitting the collars ensure that any gaps between the pipe and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collars with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

Client: Apertures with less than 8mm annular width Any gaps must be sealed Job Title: around services with a bead of Protecta FR Acrylic on both sides Masonry screws or Products Protecta FR Collar expansion bolts Protecta FR Acrylic Plastic pipe Application Fire stopping of plastic pipes in rigid walls Minimum wall thickness of 150 Construction mm and comprise concrete. aerated concrete or masonry, with a density of $\geq 650 \text{ kg/m}^3$ Protecta FR Collar to both sides of the wall Fire & Sound classification Fire classifications in table on the left. For full specifications, please refer to the Installation Instructions. Sound reduction (seal only) Services Minimum Collar Classification Height Rw 58dB ≤ Ø50mm PVC-U & PVC-C EI 180 C/C. EI 180 U/C. EI 180 C/U. EI 180 U/U (E 240) 50mm ≤ Ø110mm PVC-U & PVC-C 50mm EI 180 C/C. EI 180 U/C. EI 180 C/U. EI 180 U/U EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø160mm PVC-U & PVC-C 60mm ≤ Ø200mm PVC-U & PVC-C 60mm EI 120 C/C. EI 120 U/C Ø315x9.2mm PVC-U & PVC-C EI 120 C/C 75mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø50mm PE, ABS & SAN+PVC 50mm ≤ Ø110mm PE, ABS & SAN+PVC EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U (E 240) 50mm ≤ Ø160mm PE, ABS & SAN+PVC EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U 60mm Ø200x18.2mm PE, ABS & SAN+PVC 75mm EI 60 C/C Ø250x22.7mm PE, ABS & SAN+PVC EI 90 C/C (E 120) 75mm Protect ≤ Ø50mm PP 30mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U EI 240 C/C, EI 240 U/C, EI 90 C/U, EI 90 U/U (E 240) ≤ Ø110mm PP 50mm ≤ Ø140mm PP 60mm EI 180 C/C. EI 180 U/C. EI 60 C/U. EI 60 U/U (E 240) Ø160mm PP 60mm EI 180 C/C. EI 180 U/C. EI 180 C/U. EI 180 U/U (E 240) Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 20/8/19 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B



- 1. Before fitting the collars ensure that any gaps between the pipe and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collars with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

≤ Ø50mm BluePower

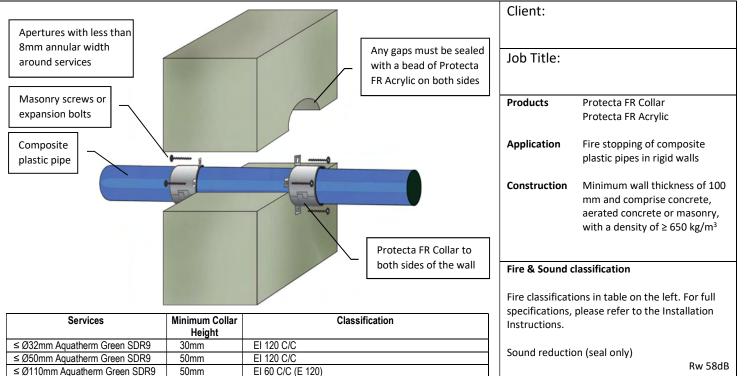
≤ Ø110mm BluePower

Ø125mm BluePower

Ø160mm BluePower

≤ Ø50mm Geberit Silent-PP

≤ Ø110mm Geberit Silent-PP



EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120)

EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U

EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)

EI 60 C/C, EI 60 U/C, EI 60 C/U (E 120)

EI 60 C/C, EI 60 U/C, EI 60 C/U

EI 90 C/C, EI 90 U/C, EI 90 C/U

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	S D TUITITI Gebern Shert-FF	30000	EI 60 C/C, EI 60 C/C, EI 60 C/O, EI 60 C/O (E 120)		
	≤ Ø50mm Polo-Kal NG pipes	50mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
	≤ Ø110mm Polo-Kal NG pipes	50mm	EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120)		
	Ø125mm Polo-Kal NG pipes	60mm	EI 120 C/C, EI 120 U/C (E 120 C/U, E 120 U/U)		VI
	Ø160mm Polo-Kal NG pipes	60mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
	≤ Ø50mm Rehau Raupiano Plus	50mm	EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120)		
	≤ Ø110mm Rehau Raupiano Plus	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)		
	≤ Ø160mm Rehau Raupiano Plus	60mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		tecta
Excitation for advisation for the distance of	≤ Ø110mm Uponor Decibel pipes	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)		15 St Andrews Road,
European Organisation for Technical Assessment	≤ Ø50mm Wavin SiTech	50mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
ETA 21/0070	≤ Ø110mm Wavin SiTech	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)	,	West Yorkshire, HD1 6SB
			For all technical details on the products specified	Tel: +44 (0) 1	48 4421036
As a part of our policy of on-going product development and te	please refer to the technical data sheets that can	Email: post.u	k@polyseam.com		
product specifications without giving notice. All information cor	be found on www.protecta.eu	Sheet size:	Drawn date & no:		
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50mm

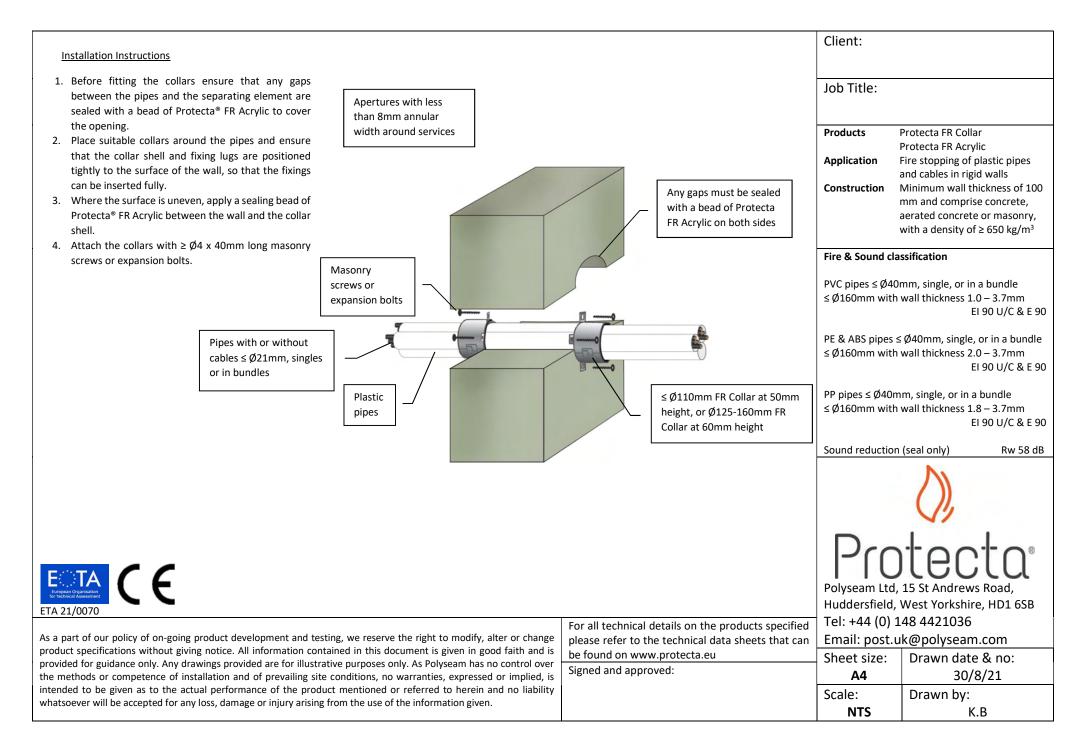
50mm

60mm

60mm

50mm

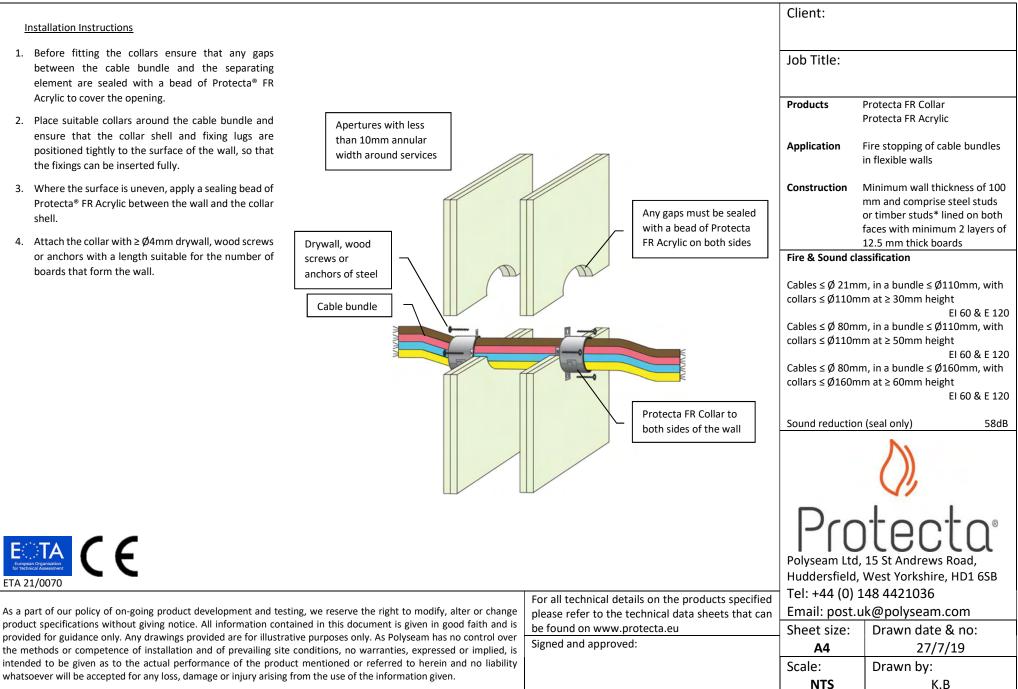
50mm



Installation Instructions	Client:	
1. Before installing Protecta [®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free	Job Title:	
from all loose contaminants, dust, oils and grease.	Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. Apertures with less than 10mm annular	Application	Fire stopping of cables in flexible walls
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.	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
Protecta FR Putty Cord	Fire & Sound cla	assification
Protecta FR Putty Cord on both sides oversailing the aperture	Cables ≤ Ø 21m ≤ Ø 50mm	m, single or in a bundle El 120 & E 120
Cables Cables	Cables ≤ Ø 80m ≤ Ø 50mm	m, single or in a bundle EI 60 & E 60
		$\langle \rangle \rangle$
	Polyseam Ltd	, 15 St Andrews Road, West Yorkshire, HD1 6SB
ETA 21/0041 For all technical details on the products specified		148 4421036
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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	_ Sheet size: A4	Drawn date & no: 29/5/18
intended to be given as to the actual performance of the product mentioned or referred to herein and no liability	Scale:	Drawn by:
whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.	NTS	K.B

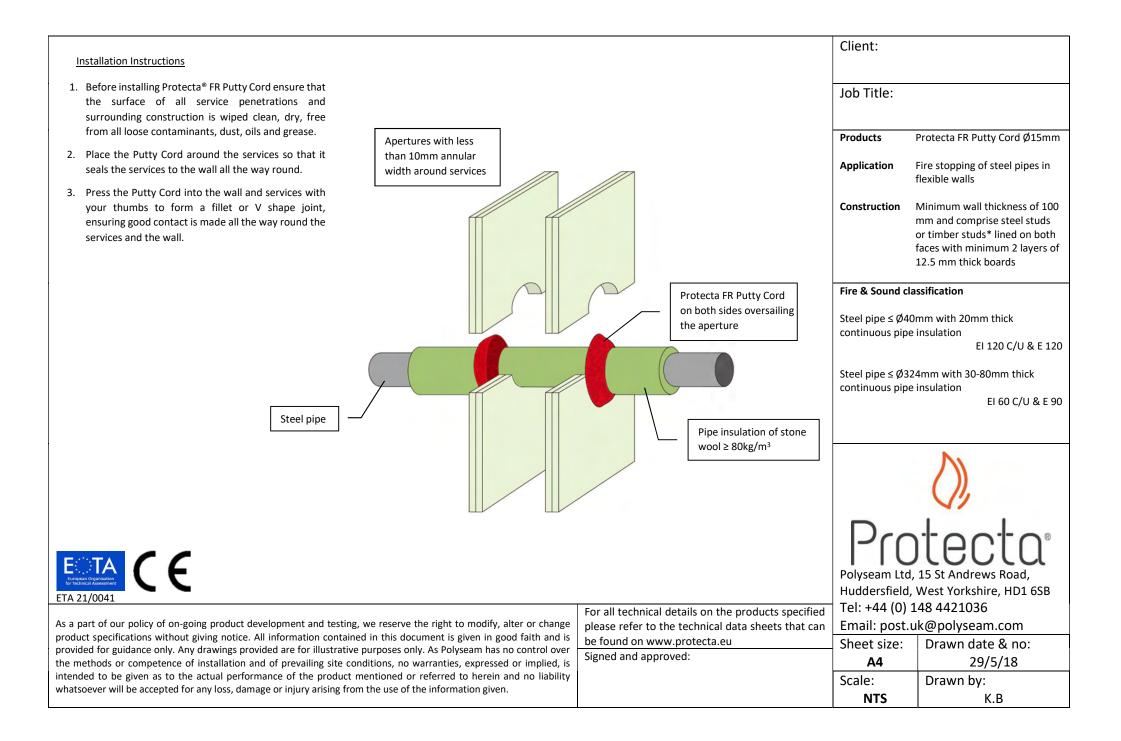
European Organisation for Technical Assessment

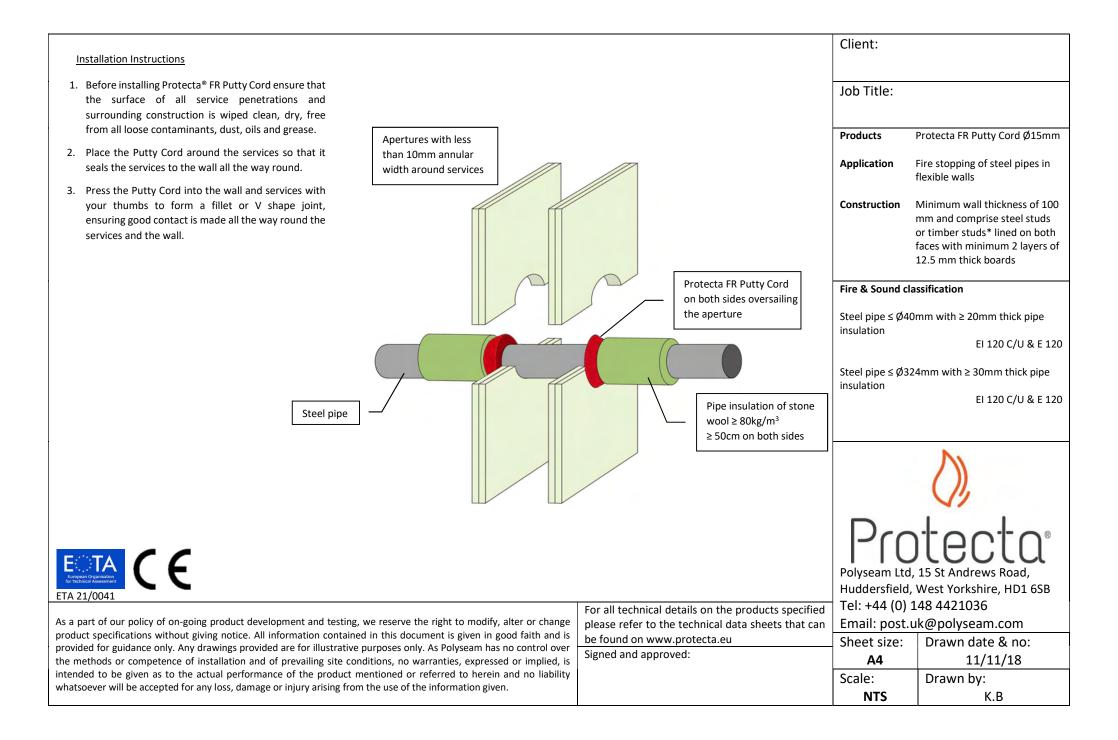
- 1. Before fitting the collars ensure that any gaps between the cable bundle and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the cable bundle and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with $\ge \emptyset$ 4mm drywall, wood screws or anchors with a length suitable for the number of boards that form the wall.



Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. than 10mm annular width around services		Application	Fire stopping of steel pipes in flexible walls
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.		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
	Protecta FR Putty Cord on both sides oversailing the aperture	Fire & Sound cl Steel pipe $\leq \emptyset$ 2	
		Steel pipe ≤ Ø 3	0mm EI 45 C/U & E 120
Steel pipe			
			$\langle \rangle$
Exception Organisation Ett A 21/0041		Huddersfield	, 15 St Andrews Road, , West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or chang	For all technical details on the products specified please refer to the technical data sheets that can		148 4421036 uk@polyseam.com
product specifications without giving notice. All information contained in this document is given in good faith and provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control ove the methods or competence of installation and of prevailing site conditions, no warranties, expressed or implied,	be found on www.protecta.eu	Sheet size:	Drawn date & no: 30/8/21
intended to be given as to the actual performance of the product mentioned or referred to herein and no liabilit whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.		Scale:	Drawn by:
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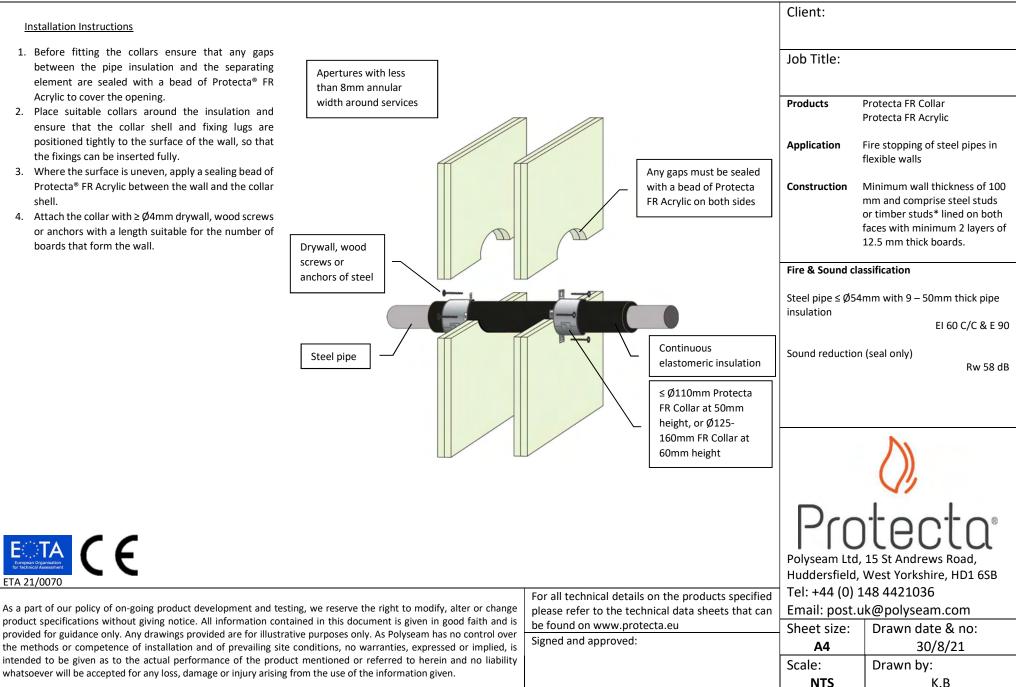
Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. than 10mm annular width around services		••	Fire stopping of steel pipes in flexible walls
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.		Construction	Minimum wall thickness of 120 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards
	Protecta FR Putty Cord on both sides oversailing the aperture	Fire & Sound cla Steel pipe ≤ Ø 32	
Steel pipe			
			15 St Andrews Road, West Yorkshire, HD1 6SB
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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	please refer to the technical data sheets that can be found on www.protecta.eu Signed and approved:	Sheet size:	uk@polyseam.com Drawn date & no: 30/8/21
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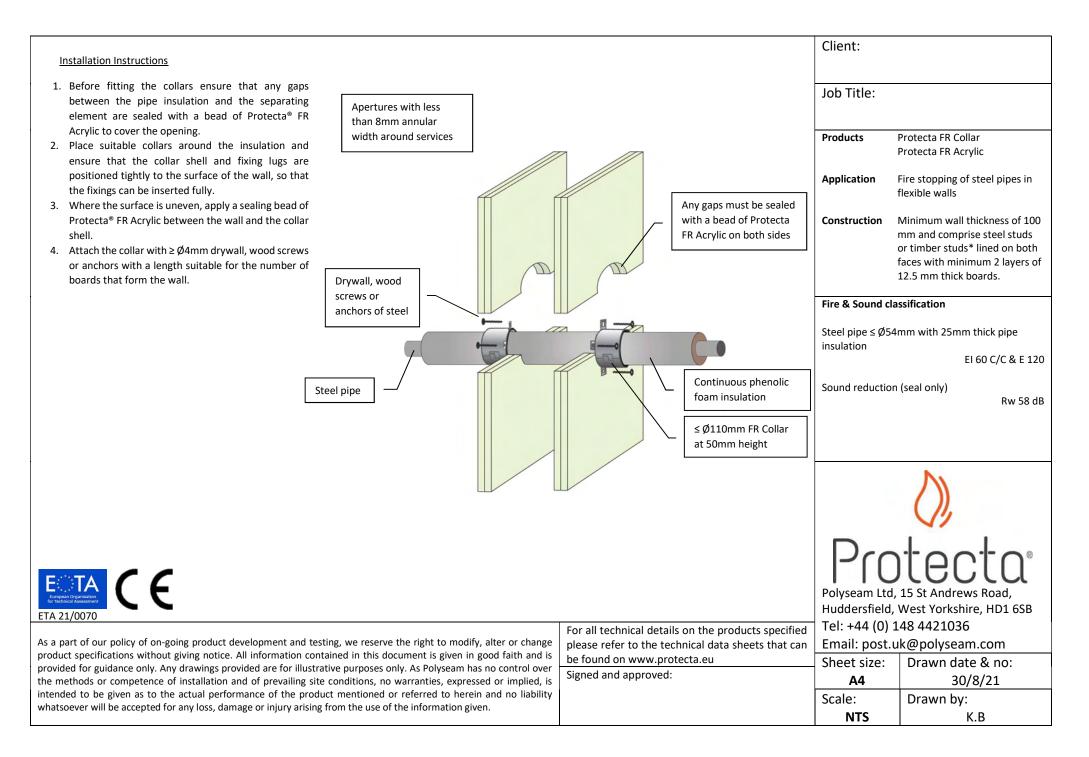


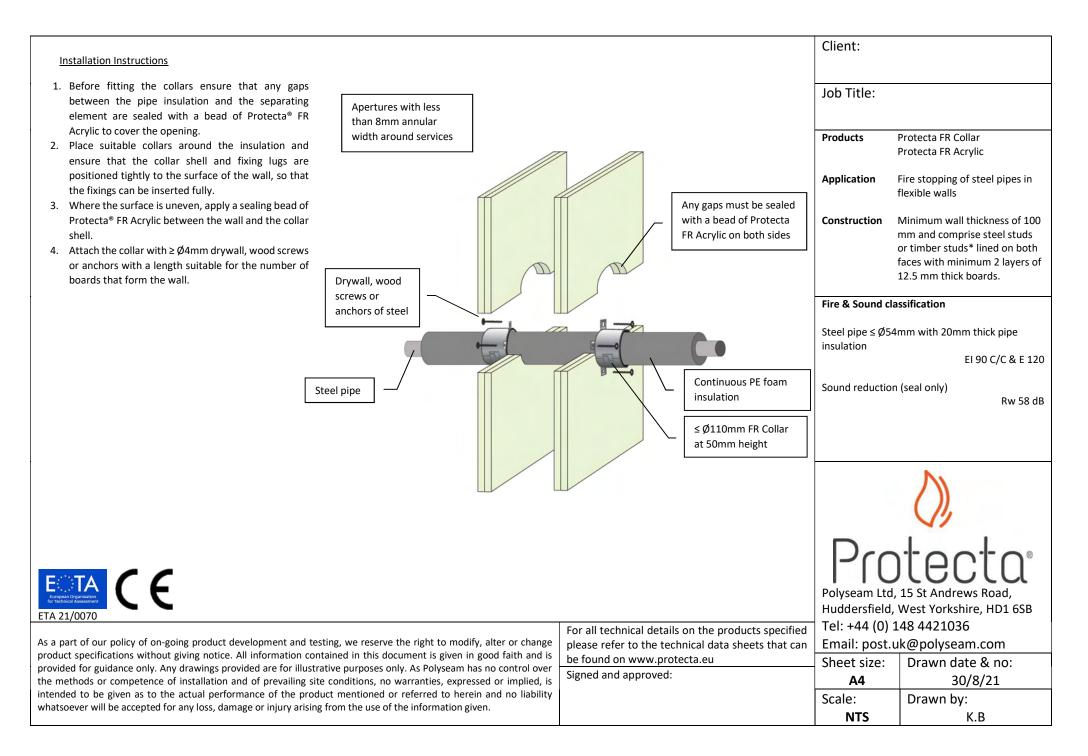


ECTA C C

- 1. Before fitting the collars ensure that any gaps between the pipe insulation and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with ≥ 0.000 0.000 or anchors with a length suitable for the number of boards that form the wall.

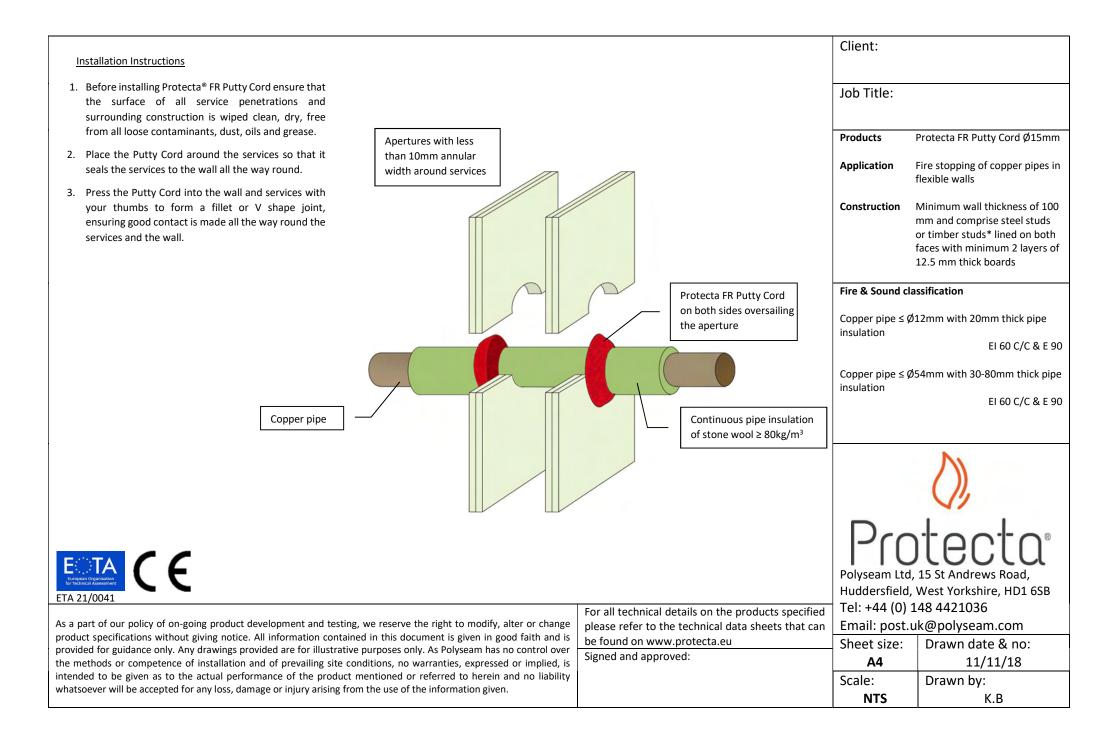


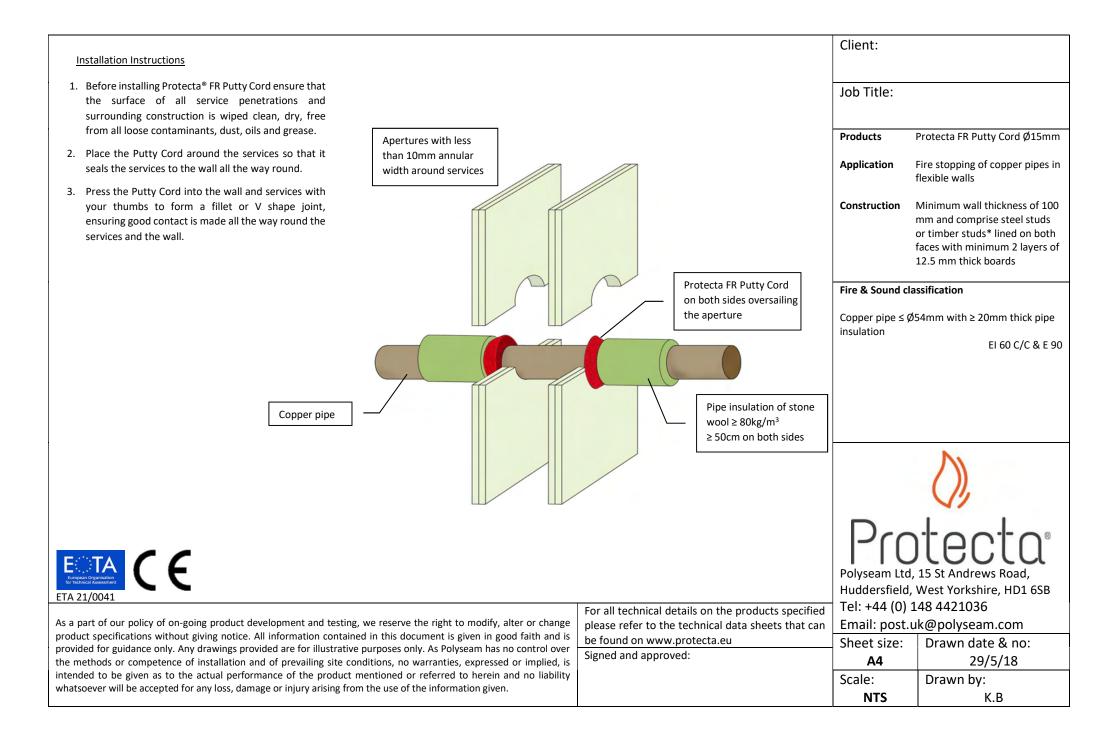




Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. than 10mm annular width around services			Fire stopping of copper pipes in flexible walls
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.			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
	Protecta FR Putty Cord on both sides oversailing the aperture	Fire & Sound cla Copper pipe $\leq \emptyset$	
Copper pipe			
			$\langle \rangle$
Е::ТА С Е		•	15 St Andrews Road, West Yorkshire, HD1 6SB
ETA 21/0041	For all technical details on the products specified	Tel: +44 (0) 1	148 4421036
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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.		Scale: NTS	Drawn by: K.B

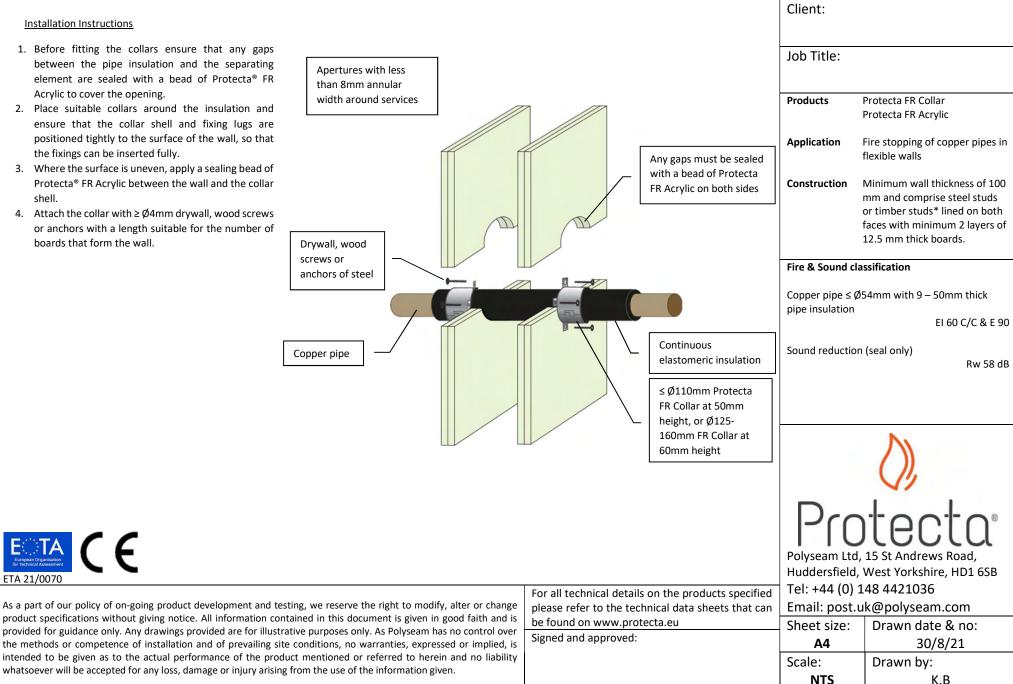
Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. than 10mm annular width around services		Application	Fire stopping of copper pipes in flexible walls
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.			Minimum wall thickness of 120 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards
	Protecta FR Putty Cord on both sides oversailing the aperture	Fire & Sound cla Copper pipe $\leq \emptyset$	
Copper pipe			
Е:::ТА впорал Формального г техноса! Азказалони			15 St Andrews Road, West Yorkshire, HD1 6SB
ETA 21/0041 As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change	For all technical details on the products specified	Tel: +44 (0) 2	148 4421036
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	please refer to the technical data sheets that can be found on www.protecta.eu Signed and approved:	Sheet size:	uk@polyseam.com Drawn date & no: 29/5/18
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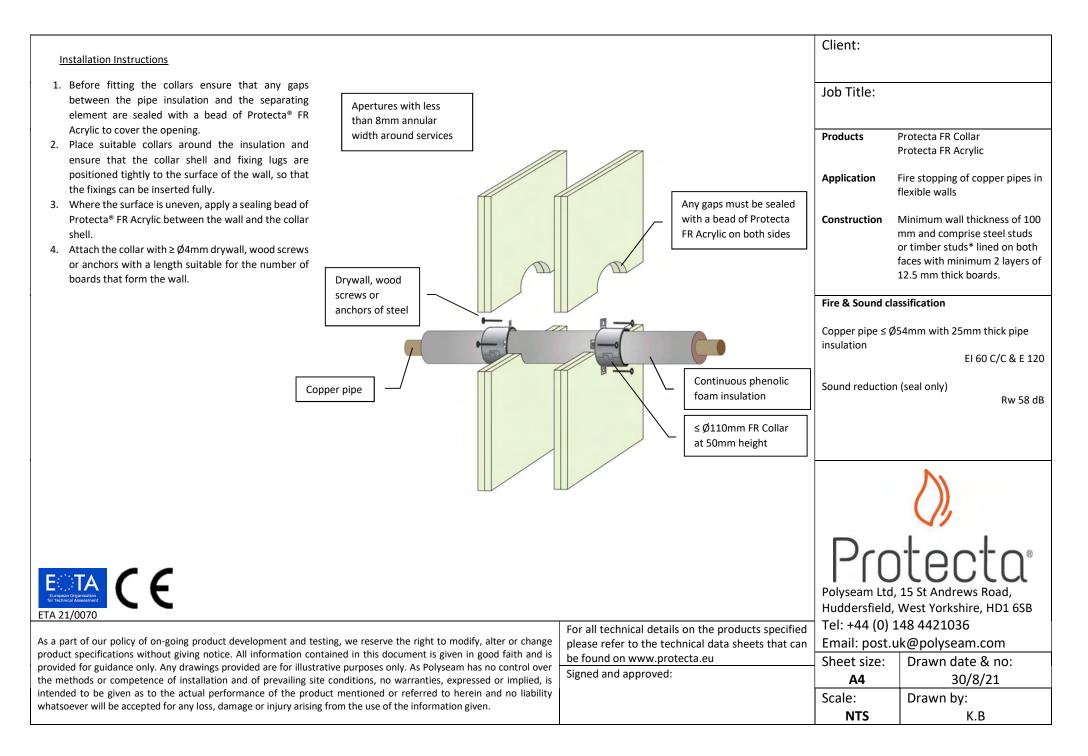


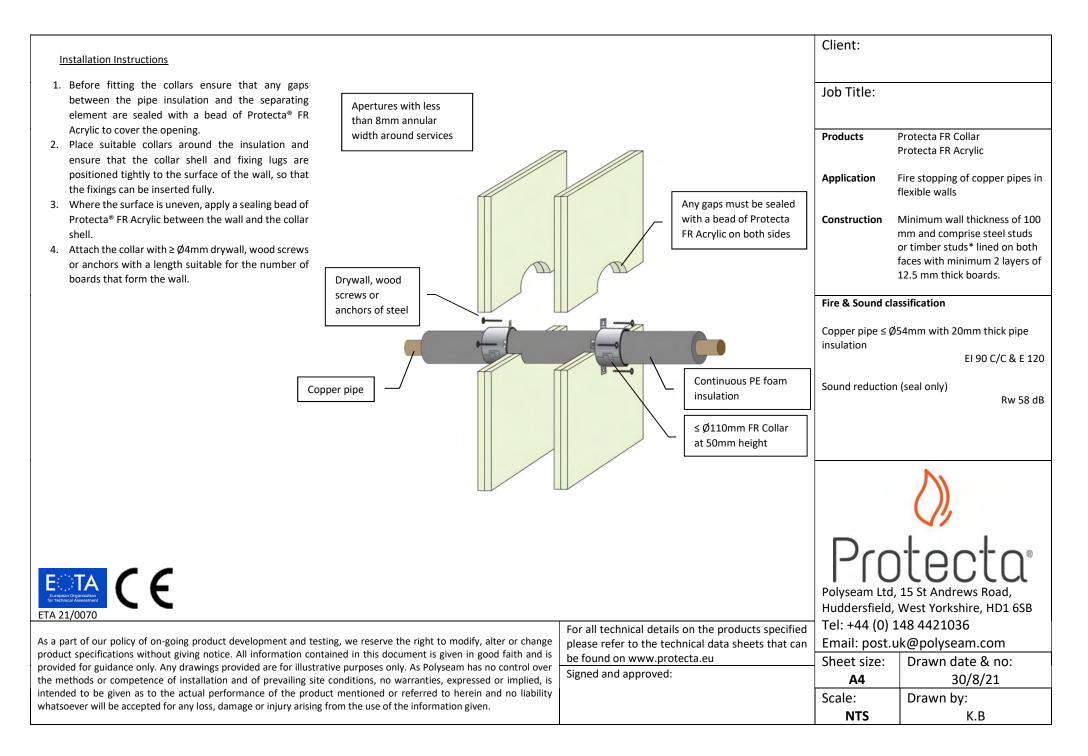


ECTA CE

- 1. Before fitting the collars ensure that any gaps between the pipe insulation and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with ≥ 0.000 0.000 or anchors with a length suitable for the number of boards that form the wall.

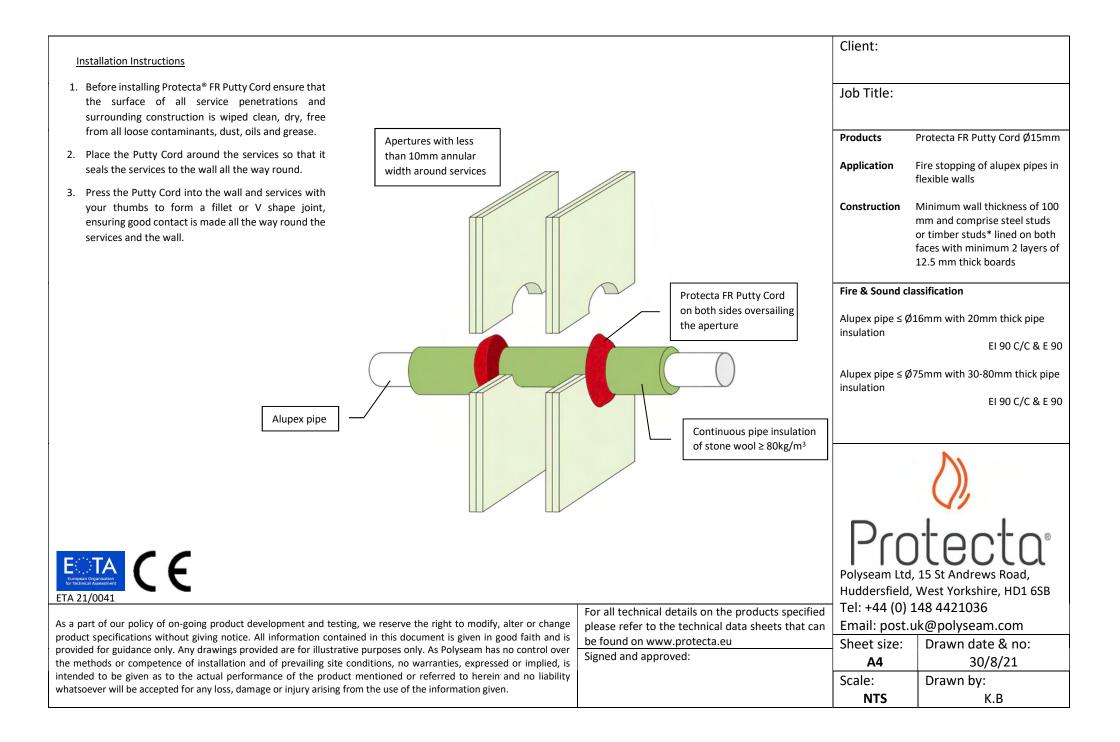


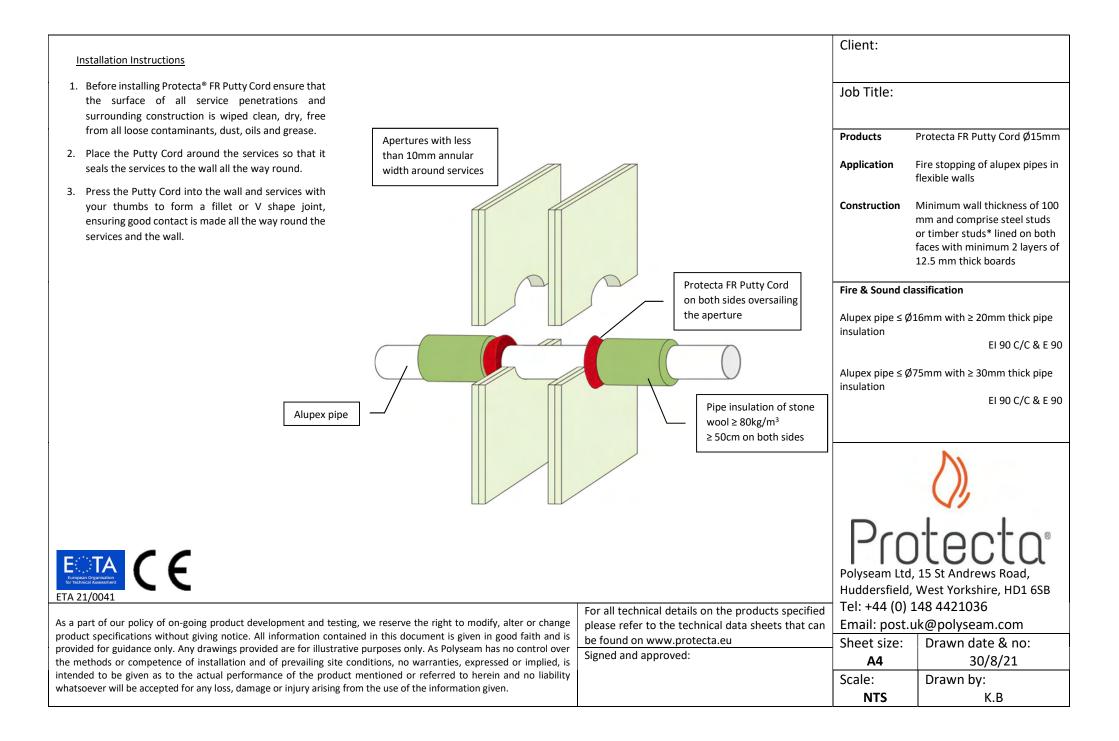




Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. than 10mm annular width around services		Application	Fire stopping of alupex pipes in flexible walls
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.		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
	Protecta FR Putty Cord on both sides oversailing the aperture	Fire & Sound classical Alupex pipe $\leq \emptyset$	
		Alupex pipe ≤ Ø	20mm EI 90 C/C & E 120
Alupex pipe			
			$\langle \rangle$
		Huddersfield,	, 15 St Andrews Road, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change	For all technical details on the products specified please refer to the technical data sheets that can	• •	148 4421036 uk@polyseam.com
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	be found on www.protecta.eu Signed and approved:	Sheet size:	Drawn date & no:
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	Signed and approved.	A4 Scale:	11/11/18 Drawn by:
whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.		NTS	K.B

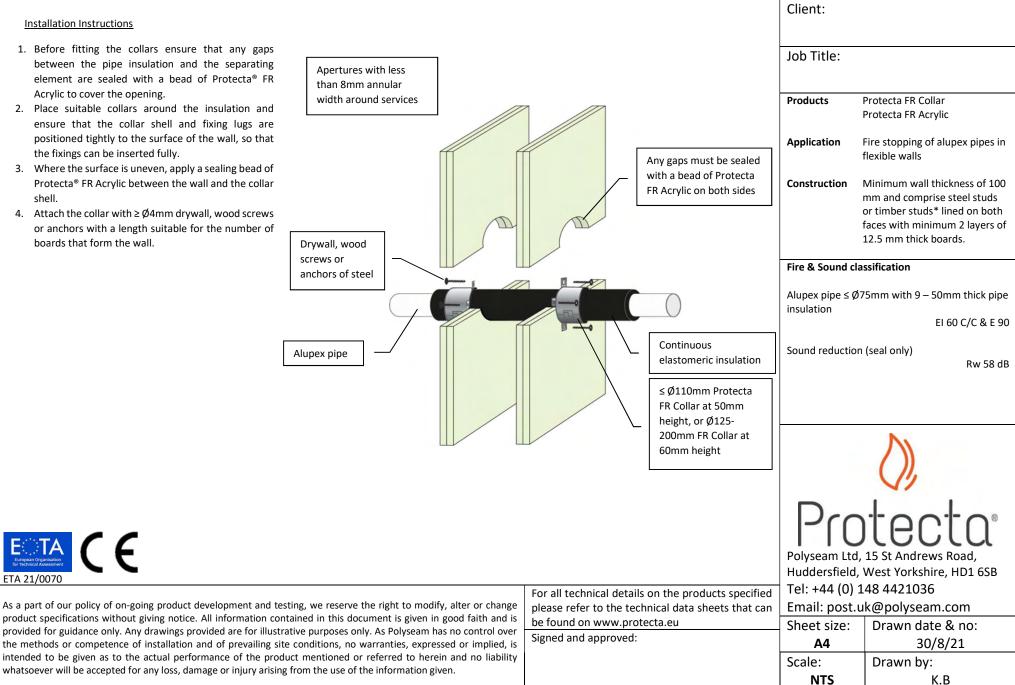
Installation Instructions		Client:	
 Before installing Protecta[®] FR Putty Cord ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free 		Job Title:	
from all loose contaminants, dust, oils and grease. Apertures with less		Products	Protecta FR Putty Cord Ø15mm
2. Place the Putty Cord around the services so that it seals the services to the wall all the way round. than 10mm annular width around services			Fire stopping of alupex pipes in flexible walls
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.			Minimum wall thickness of 120 mm and comprise steel studs or timber studs* lined on both faces with minimum 2 layers of 12.5 mm thick boards
	Protecta FR Putty Cord	Fire & Sound cla	assification
	on both sides oversailing the aperture	Alupex pipe ≤ Ø	75mm EI 90 C/C & E 90
Alupex pipe			
			$\langle \rangle$
ECTA European Cognisation for Tothick assessment		Pro	tecta®
European Organisation for Tachnical Assessment ETA 21/0041		Huddersfield,	West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change	For all technical details on the products specified please refer to the technical data sheets that can		148 4421036 uk@polyseam.com
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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	Signed and approved:	A4	30/8/21
whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.		Scale: NTS	Drawn by: K.B





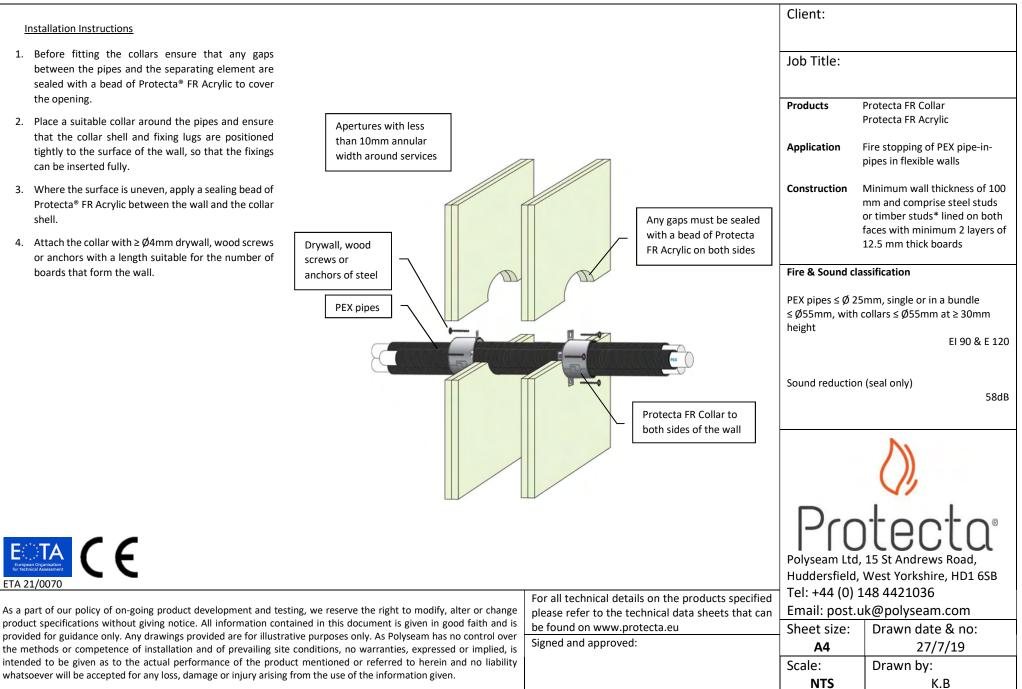
ECTA CE

- 1. Before fitting the collars ensure that any gaps between the pipe insulation and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place suitable collars around the insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with ≥ 0.000 0.000 or anchors with a length suitable for the number of boards that form the wall.



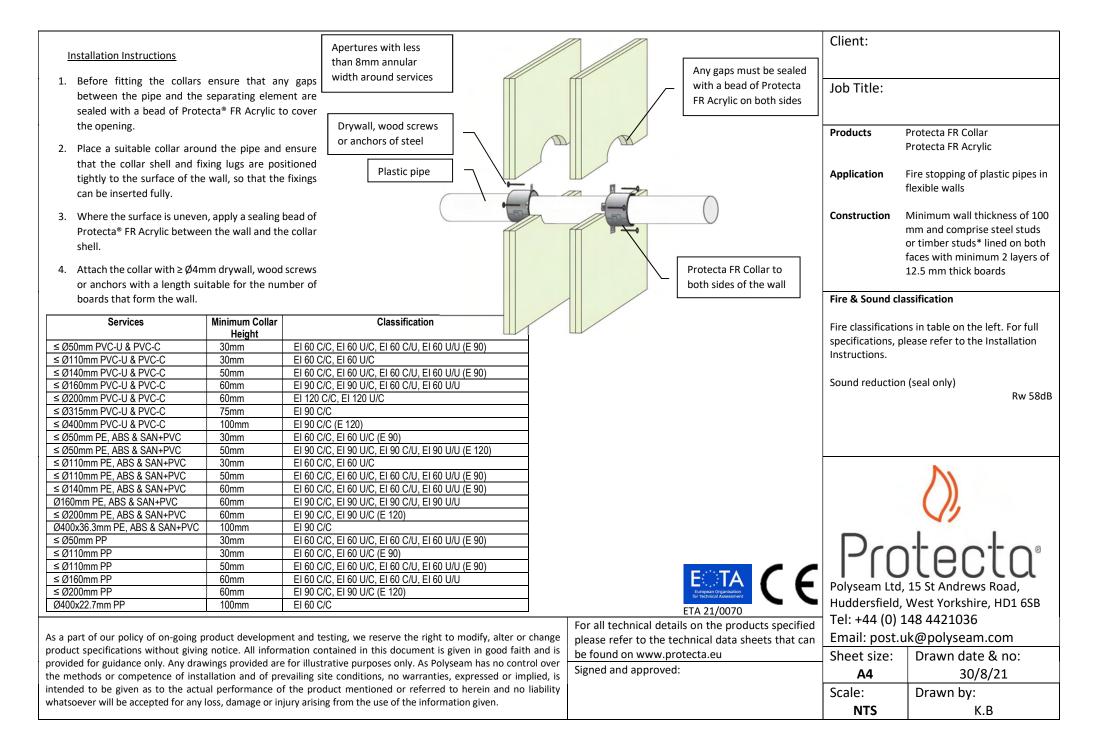
European Organisation for Technical Assessment

- 1. Before fitting the collars ensure that any gaps between the pipes and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place a suitable collar around the pipes and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with $\ge \emptyset$ 4mm drywall, wood screws or anchors with a length suitable for the number of boards that form the wall.

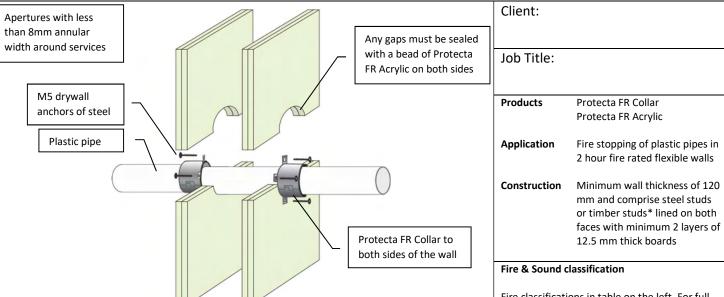


- 1. Before fitting the collars ensure that any gaps between the pipe and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- or anchors with a length suitable for the number of boards that form the wall.

Installation Instructions 1. Before fitting the collars ensure that any gaps	Apertures with less than 8mm annular width around services		Any gaps must be sealed with a bead of Protecta	Client: Job Title:	
 between the pipe and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening. Place a suitable collar around the pipe and ensure that the collar shell and 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 and the collar shell. Attach the collar with ≥ Ø4mm drywall, wood screws or anchors with a length suitable for the number of boards that form the wall. 	Drywall, wood screws or anchors of steel Plastic pipe		FR Acrylic on both sides	Products Application Construction Fire & Sound c	Protecta FR Collar Protecta FR Acrylic Fire stopping of plastic pipes in flexible walls 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 lassification ons in table on the left. For full please refer to the Installation
	Services ≤ Ø50mm PVC-U & PVC-C ≤ Ø90mm PVC-U & PVC-C ≤ Ø110mm PVC-U & PVC-C	Minimum Collar Height 30mm 30mm 30mm	r Classification EI 30 C/C, EI 30 U/C, EI 30 C/U, EI 30 U/U (E 60) EI 30 C/C, EI 30 U/C (E 60) EI 45 C/C, EI 45 U/C (E 60)	Sound reductio	on (seal only) Rw 58dB
	≤ Ø110mm PVC-U & PVC-C ≤ Ø90mm PE, ABS & SAN+PVC ≤ Ø110mm PE, ABS & SAN+PVC ≤ Ø160mm PE, ABS & SAN+PVC ≤ Ø50mm PE	60mm 30mm 30mm 60mm 30mm	E 145 C/C, E 145 U/C (E 60) E 130 C/C, E 145 U/C (E 60) E 130 C/C, E 130 U/C (E 60) E 145 C/C, E 145 U/C (E 60) E 145 C/C, E 145 U/C (E 60) E 130 C/C, E 130 U/C, E 130 C/U, E 130 U/U (E 60)		\mathcal{D}
	≤ Ø90mm PP ≤ Ø110mm PP	30mm 30mm	EI 30 C/C, EI 30 U/C (E 60) EI 45 C/C, EI 45 U/C (E 60)		
ETA 21/0070	≤ Ø90mm PP	30mm	EI 30 C/C, EI 30 U/C (E 60)	Huddersfield	d, 15 St Andrews Road, West Yorkshire, HD1 6SB 148 4421036



- 1. Before fitting the collars ensure that any gaps between the pipe and the separating element are sealed with a bead of Protecta® FR Acrylic to cover the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with M5 drywall anchors with a length suitable for the number of boards that form the wall.



be found on www.protecta.eu

Signed and approved:

Fire classifications in table on the left. For full specifications, please refer to the Installation Instructions.

Sound reduction (seal only)

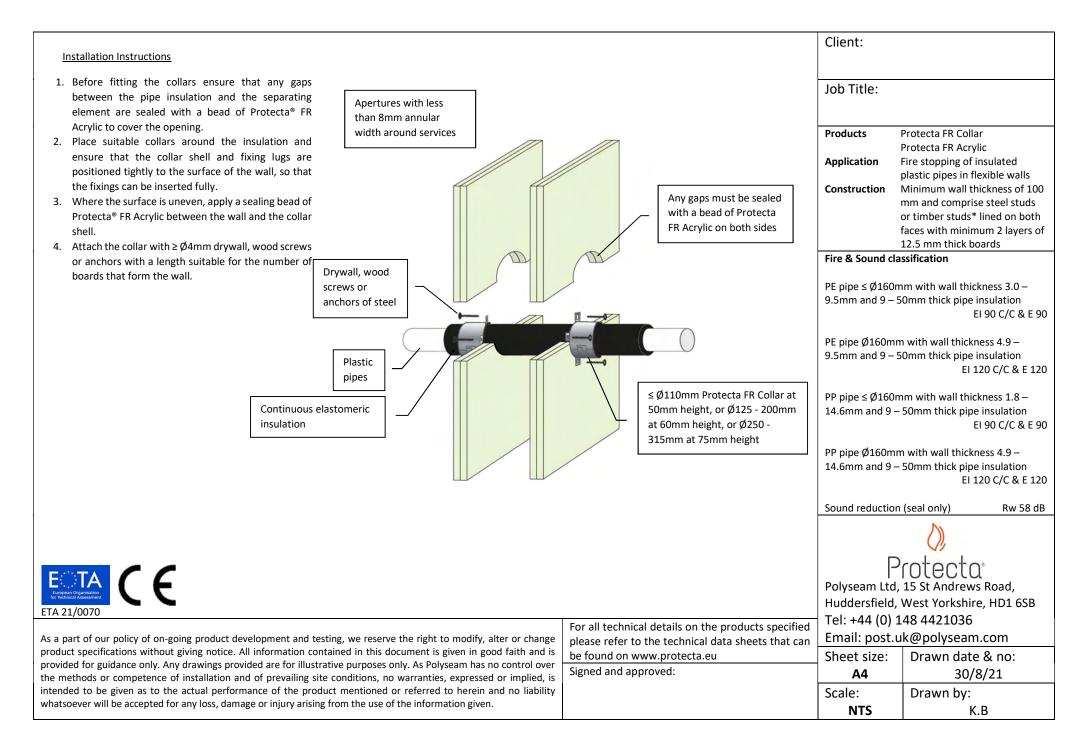
Rw 58dB

Services	Minimum Collar Height	Classification
≤ Ø110mm PVC-U & PVC-C	50mm	EI 120 C/C
≤ Ø160mm PVC-U & PVC-C	60mm	EI 120 C/C
≤ Ø200mm PVC-U & PVC-C	60mm	EI 120 C/C, EI 120 U/C
≤ Ø50mm PE, ABS & SAN+PVC	50mm	EI 120 C/C
≤ Ø110mm PE, ABS & SAN+PVC	50mm	EI 90 C/C (E 120)
Ø110x3.4mm PE, ABS & SAN+PVC	50mm	EI 120 C/C
≤ Ø160mm PE, ABS & SAN+PVC	60mm	EI 120 C/C
≤ Ø50mm PP	50mm	EI 120 C/C
≤Ø110mm PP	50mm	EI 90 C/C (E 120)
≤Ø140mm PP	60mm	EI 90 C/C (E 120)
Ø160mm PP	60mm	EI 120 C/C



Protor Polyseam Ltd, 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com please refer to the technical data sheets that can Drawn date & no: Sheet size: A4 30/8/21 Scale: Drawn by: NTS K.B

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.



- 1. Before fitting the collars ensure that any ga between the pipe and the separating element an sealed with a bead of Protecta® FR Acrylic to cov the opening.
- 2. Place a suitable collar around the pipe and ensui that the collar shell and fixing lugs are positione tightly to the surface of the wall, so that the fixin can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead Protecta® FR Acrylic between the wall and the coll shell.
- 4. Attach the collar with $\ge \emptyset 4$ mm drywall, wood screw or anchors with a length suitable for the number boards that form the wall.

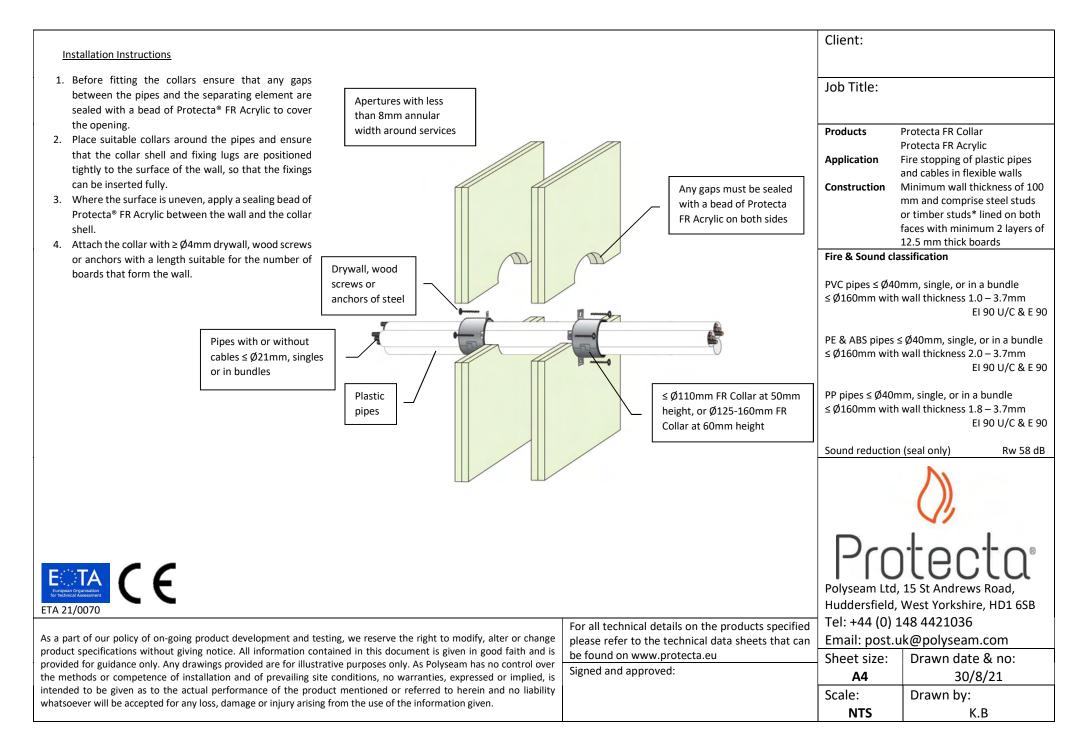


	Apertures with less than 8mm annular				Client:	
	width around services			Any gaps must be sealed with a bead of Protecta FR Acrylic on both sides	Job Title:	
	Drywall, wood screws or anchors of steel				Products	Protecta FR Collar Protecta FR Acrylic
	Composite plastic pipe				Application	Fire stopping of composite plastic pipes in flexible walls
				Protecta FR Collar to both sides of the wall	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
						ons in table on the left. For full
Γ	Services	Minimum Collar	Clas	sification	specifications,	please refer to the Installation

	Services	Minimum Collar Height	Classification	Instructions.	
	≤ Ø32mm Aquatherm Green SDR9	30mm	EI 120 C/C		
	≤ Ø50mm Aquatherm Green SDR9	50mm	EI 120 C/C	Sound reduction	(seal only)
	≤ Ø110mm Aquatherm Green SDR9	50mm	EI 60 C/C (E 120)		Rw 58dB
	≤ Ø50mm BluePower	50mm	EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120)		
	≤ Ø110mm BluePower	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U (E 120)		
	Ø125mm BluePower	60mm	EI 60 C/C, EI 60 U/C, EI 60 C/U		
	Ø160mm BluePower	60mm	EI 90 C/C, EI 90 U/C, EI 90 C/U		
	≤ Ø50mm Geberit Silent-PP	50mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
	≤ Ø110mm Geberit Silent-PP	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)		
	≤ Ø50mm Polo-Kal NG pipes	50mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
	≤ Ø110mm Polo-Kal NG pipes	50mm	EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120)		()).
	Ø125mm Polo-Kal NG pipes	60mm	EI 120 C/C, EI 120 U/C (E 120 C/U, E 120 U/U)		V2
	Ø160mm Polo-Kal NG pipes	60mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
	≤ Ø50mm Rehau Raupiano Plus	50mm	EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120)		tecta 15 St Andrews Road.
	≤ Ø110mm Rehau Raupiano Plus	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)		
	≤ Ø160mm Rehau Raupiano Plus	60mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U		
E::::TA E:::opaniation for Technical Assessment	≤ Ø110mm Uponor Decibel pipes	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)	Delysoom Ltd	15 St Androws Dood
European Organisation for Technical Assessment	≤ Ø50mm Wavin SiTech	50mm	EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U	,	,
ETA 21/0070	≤ Ø110mm Wavin SiTech	50mm	EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120)	Huddersfield,	West Yorkshire, HD1 6SB
ETA 21/00/0			For all task includes its on the graduate energified	Tel: +44 (0) 1	48 4421036
As a part of our policy of on-going product development and tes	sting we record the right to modify	altor or change	For all technical details on the products specified		
		-	please refer to the technical data sheets that can	· · ·	ik@polyseam.com
product specifications without giving notice. All information con			be found on www.protecta.eu	Sheet size:	Drawn date & no:
provided for guidance only. Any drawings provided are for illustr the methods or competence of installation and of prevailing sit			Signed and approved:	A4	30/8/21
intended to be given as to the actual performance of the prod				Scale:	Drawn by:
whatsoever will be accepted for any loss, damage or injury arising	g from the use of the information give	en.		NITC	, V D

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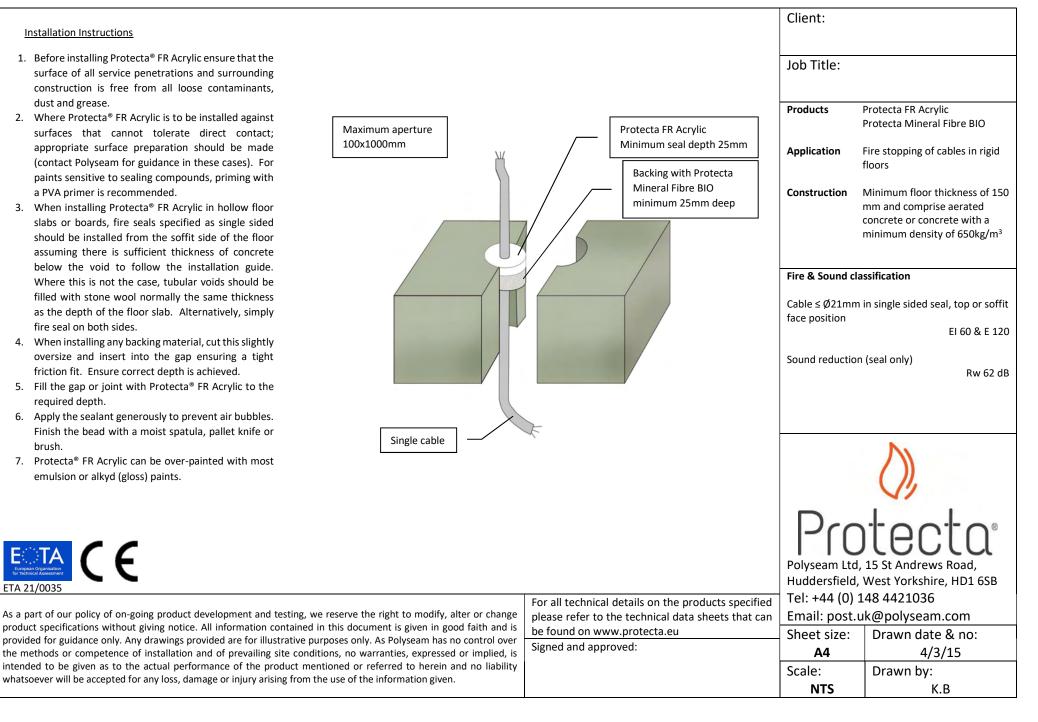
Appendix II

Service penetration solutions with annular gaps ≤ 30mm

-

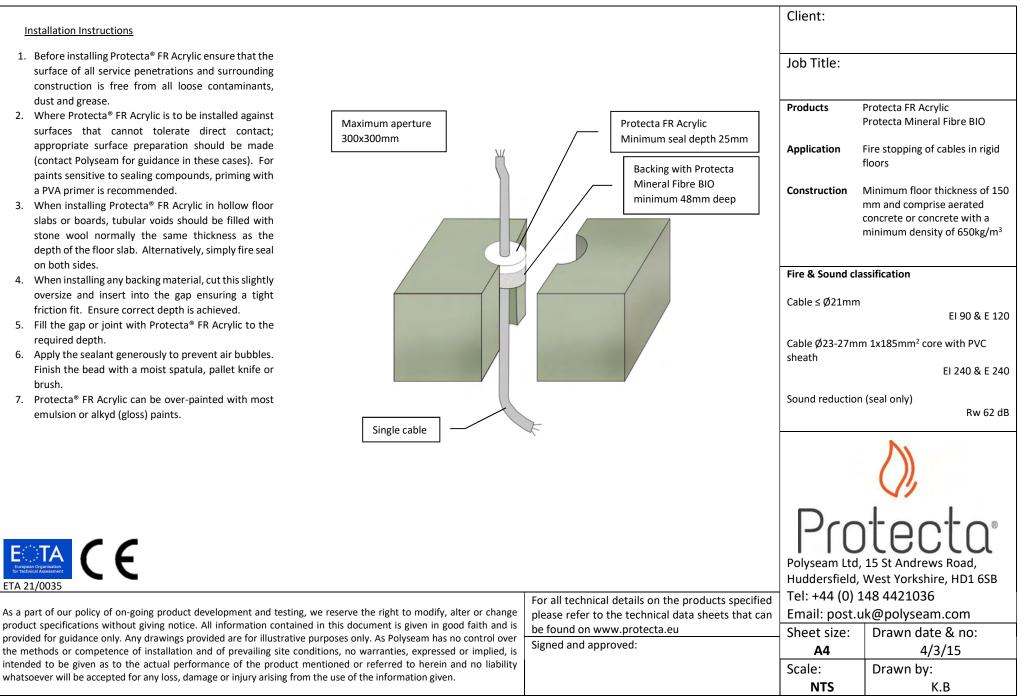
- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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 brush.
- 7. Protecta[®] FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.

ЕСТА С С



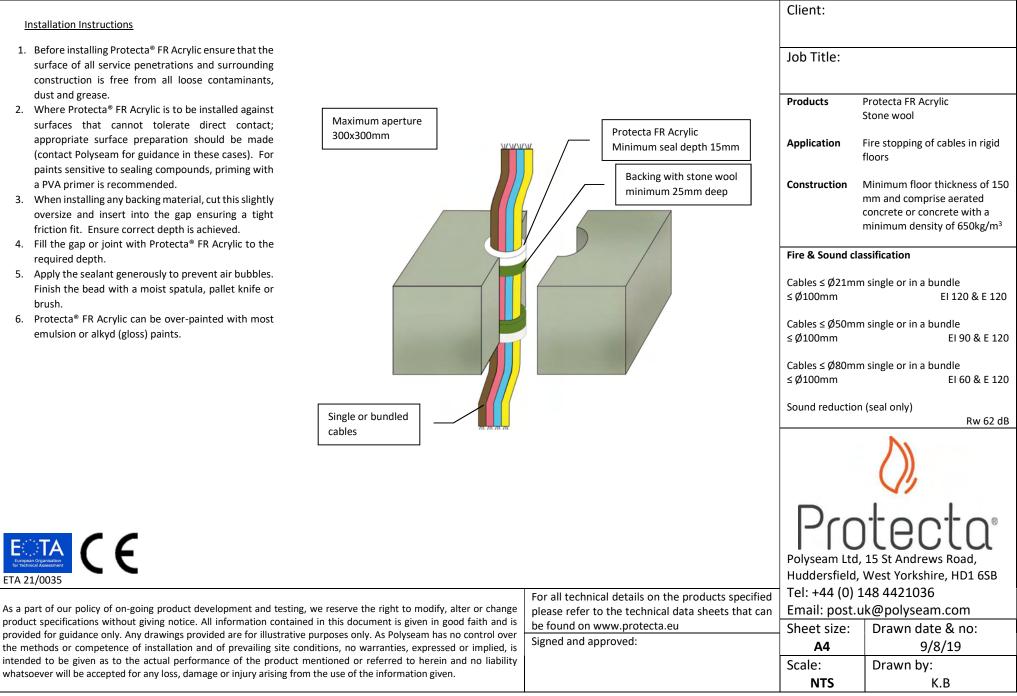
- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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, 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 brush.
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ЕСТА С С



European Organisation for Technical Assessment

- 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.
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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.



EUTOPEAN CONTRACT C

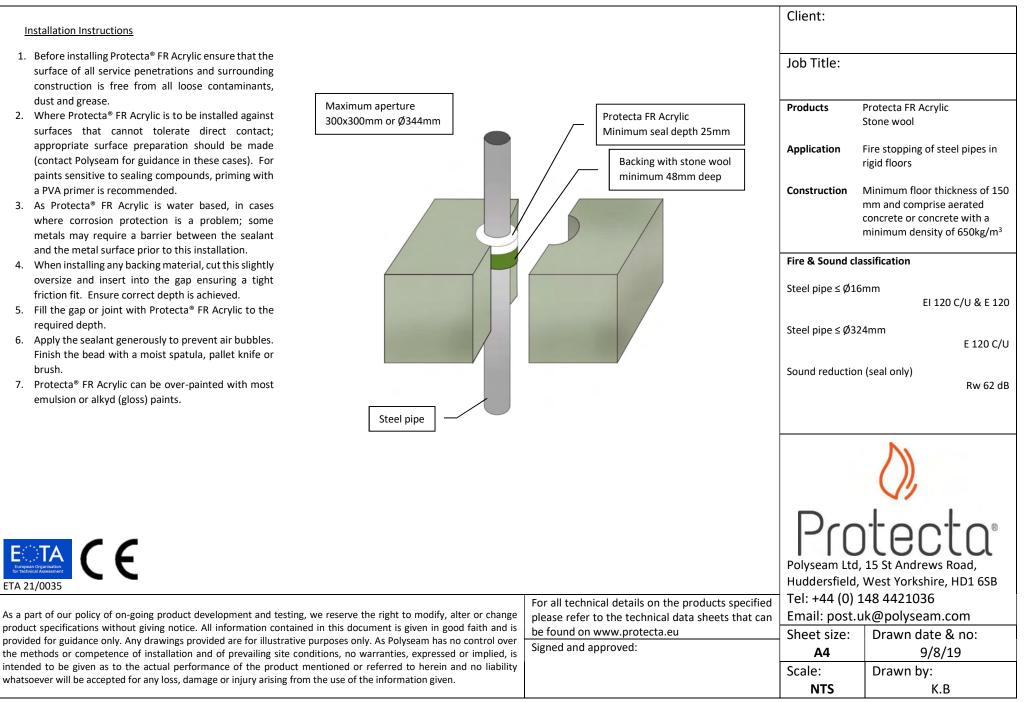
ETA 21/0070

- 1. Before fitting the collar ensure that the gaps between the bundled cables and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the cables and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

Client: Job Title: Apertures with minimum 10mm annular width Products Protecta FR Collar around services Protecta FR Acrylic Protecta FR Acrylic on Stonewool stonewool backing Application Fire stopping of cables in rigid from soffit side Cables 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 $\leq \emptyset 21$ mm in a bundle $\leq \emptyset 160$ mm EI 180 & E 180 Masonry screws ≤ Ø160mm FR Collar or expansion bolts at \geq 60mm height to Sound reduction (seal only) the soffit side Rw 62dB Protect Polyseam Ltd, 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 20/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

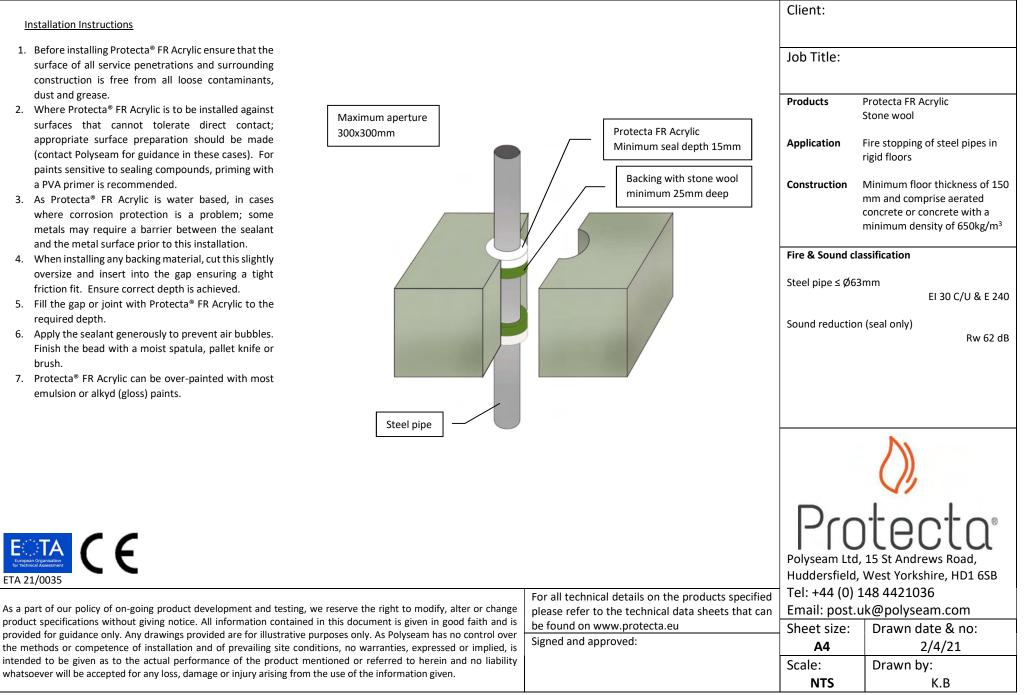
- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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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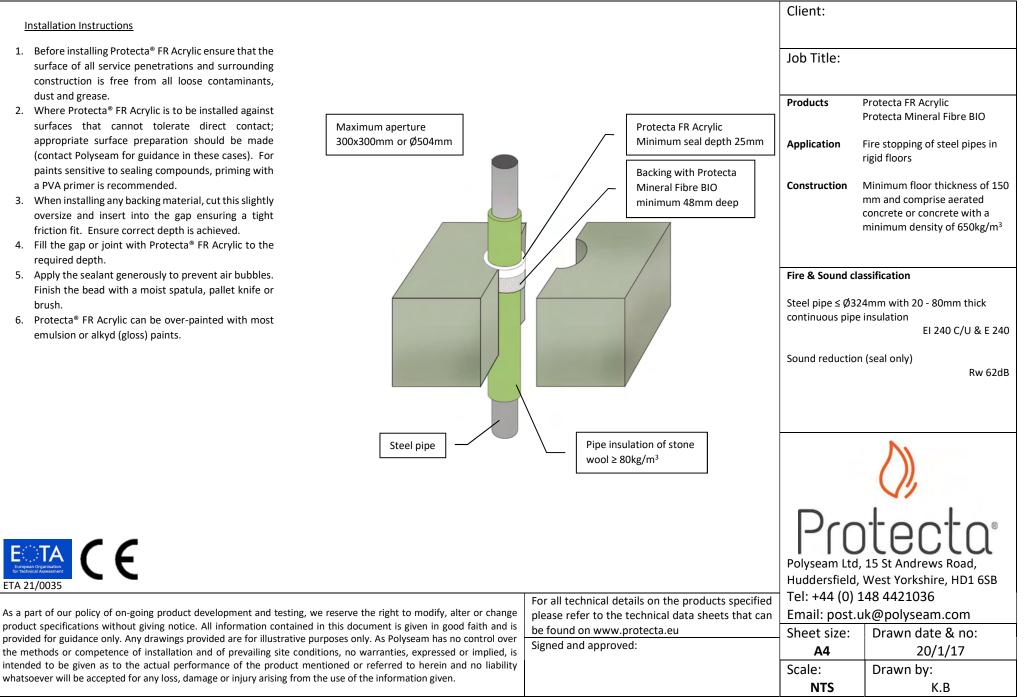


- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
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- 5. Fill the gap or joint with Protecta[®] FR Acrylic to the required 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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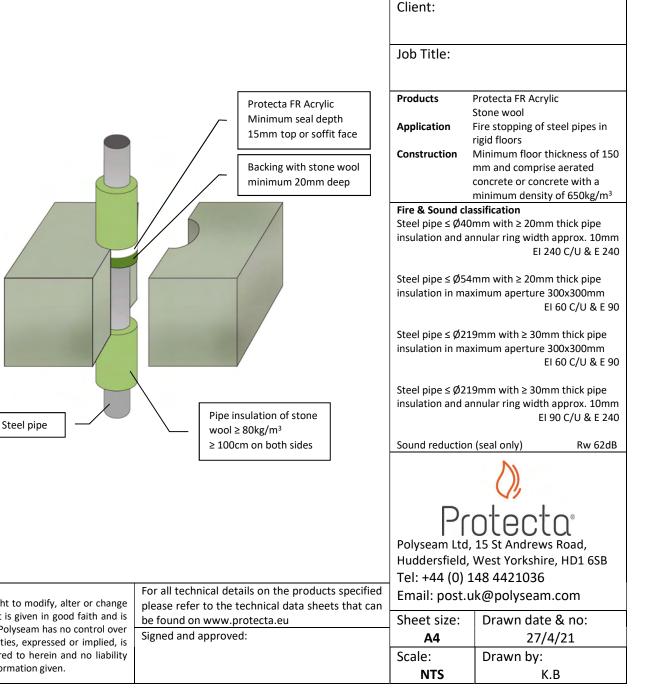
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- 3. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 4. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth.
- 5. Apply 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.



- 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.
- 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.
- 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.
- 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.



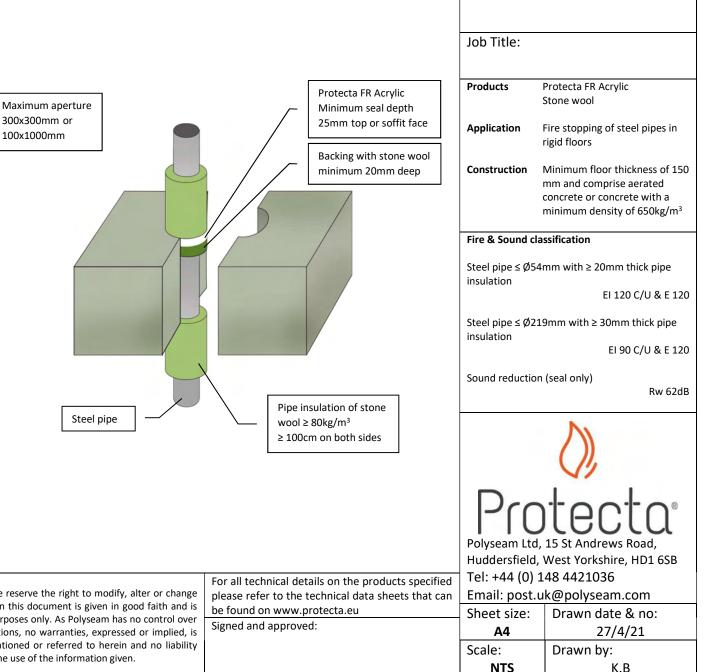
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- Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- Where Protecta® FR Acrylic is to be installed against surfaces that 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.
- 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.
- 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.
- 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.



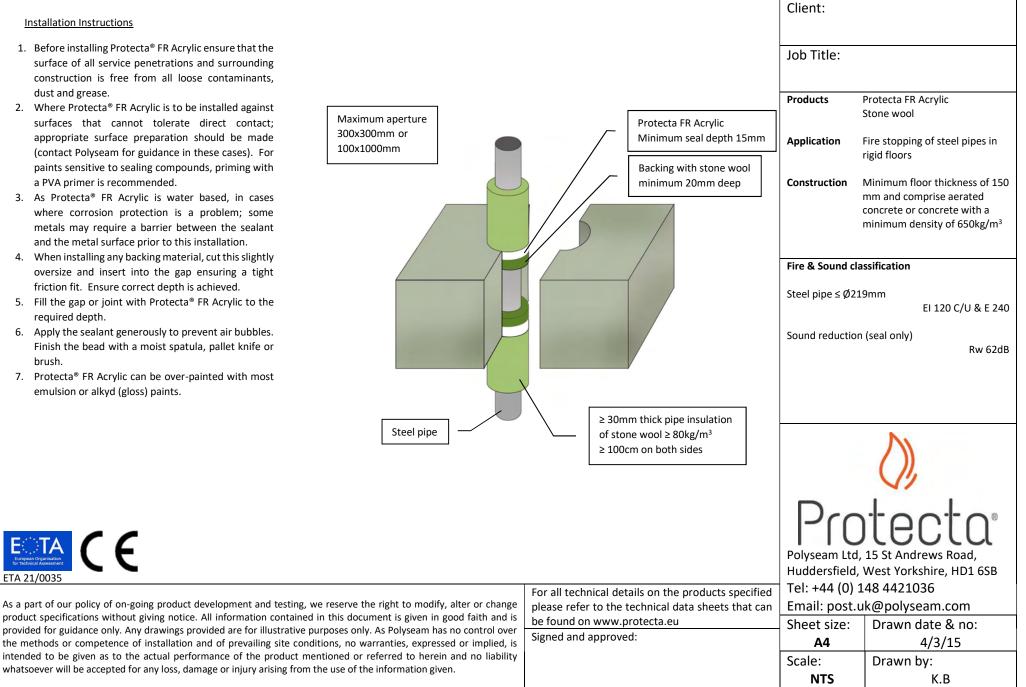
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Client:

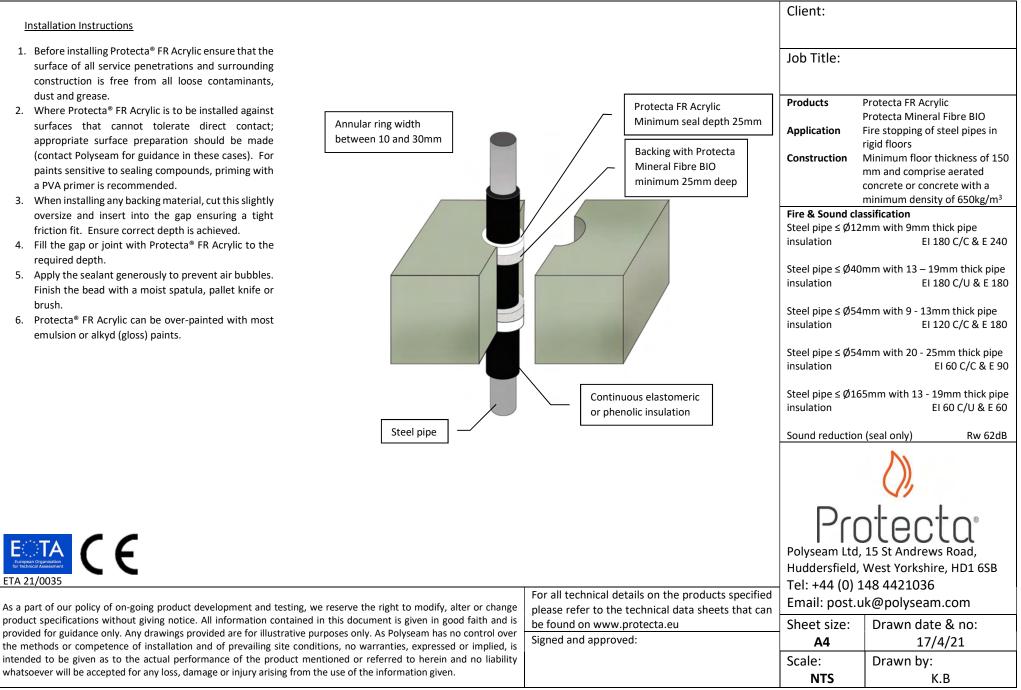
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- 3. As Protecta[®] FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing any backing material, cut 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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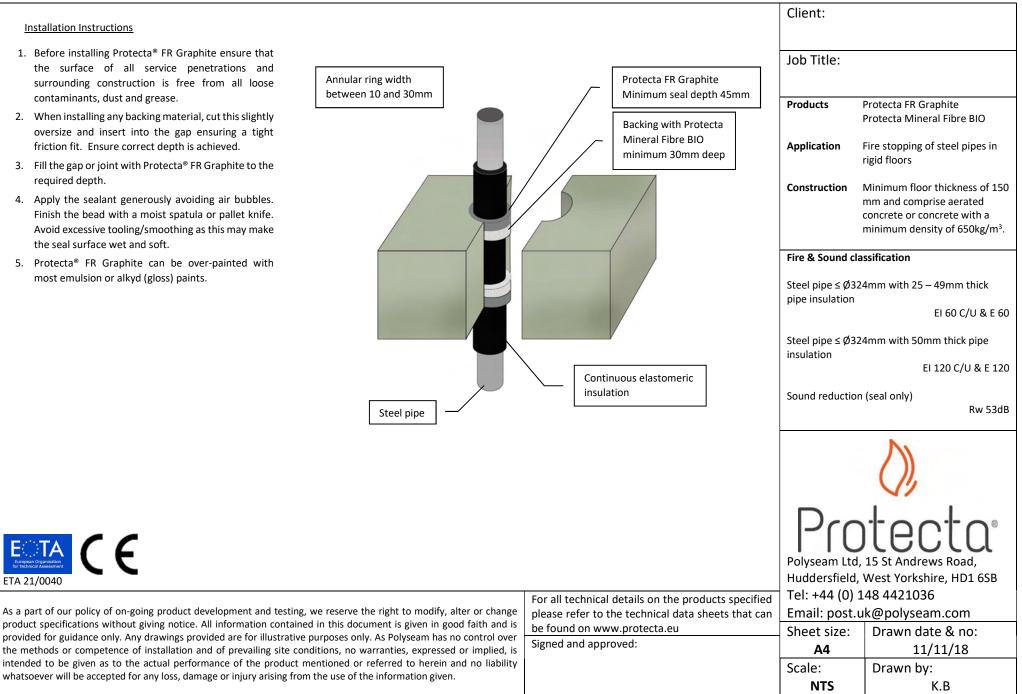
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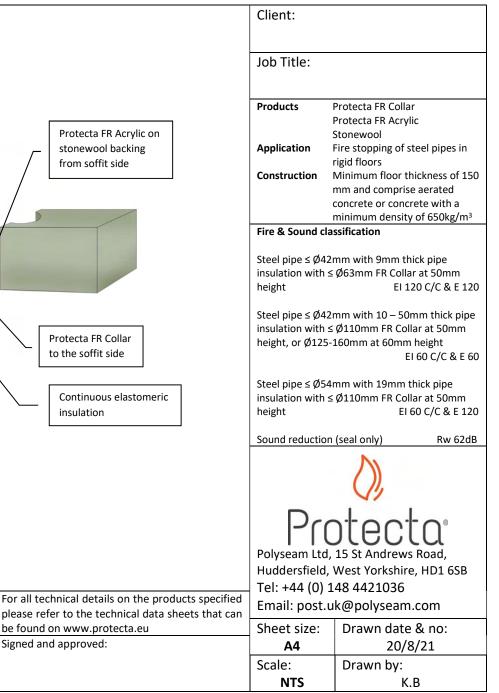
European Organisation for Technical Assessment

- 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.



- Before fitting the collar ensure that the gaps between the pipe insulation and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipe insulation and ensure that the collar shell and 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 collar shell.
- Attach the collar with ≥ Ø4 x 40mm long masonry screws or expansion bolts.

Apertures with minimum 10mm annular width around services Steel pipe Frotecta FR Acrylic on stonewool backing from soffit side Masonry screws or expansion bolts Continuous elastomeric

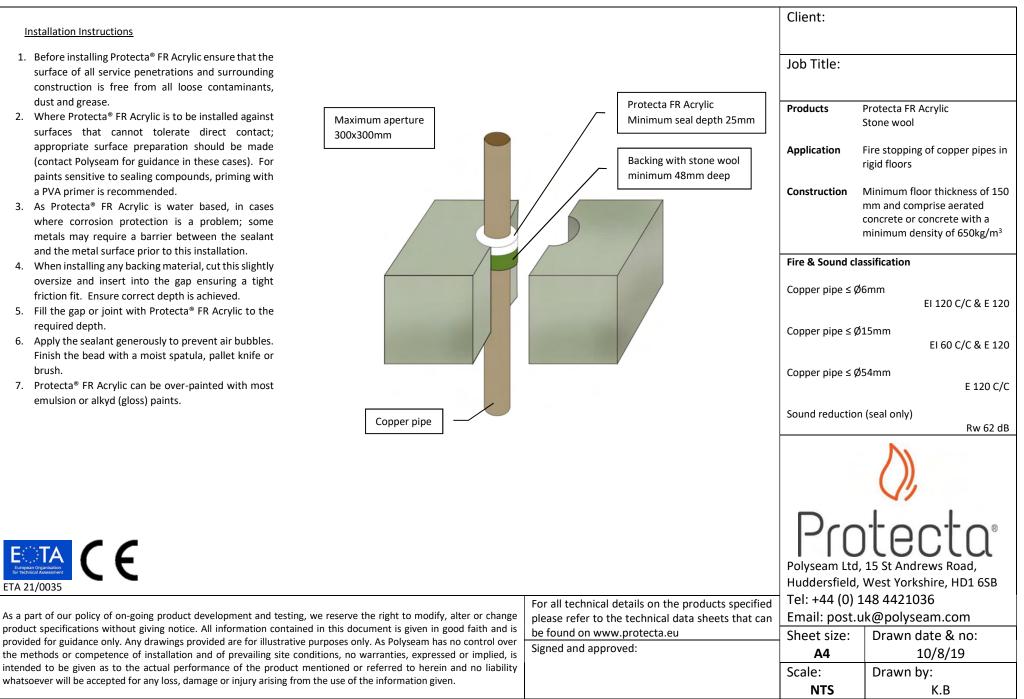




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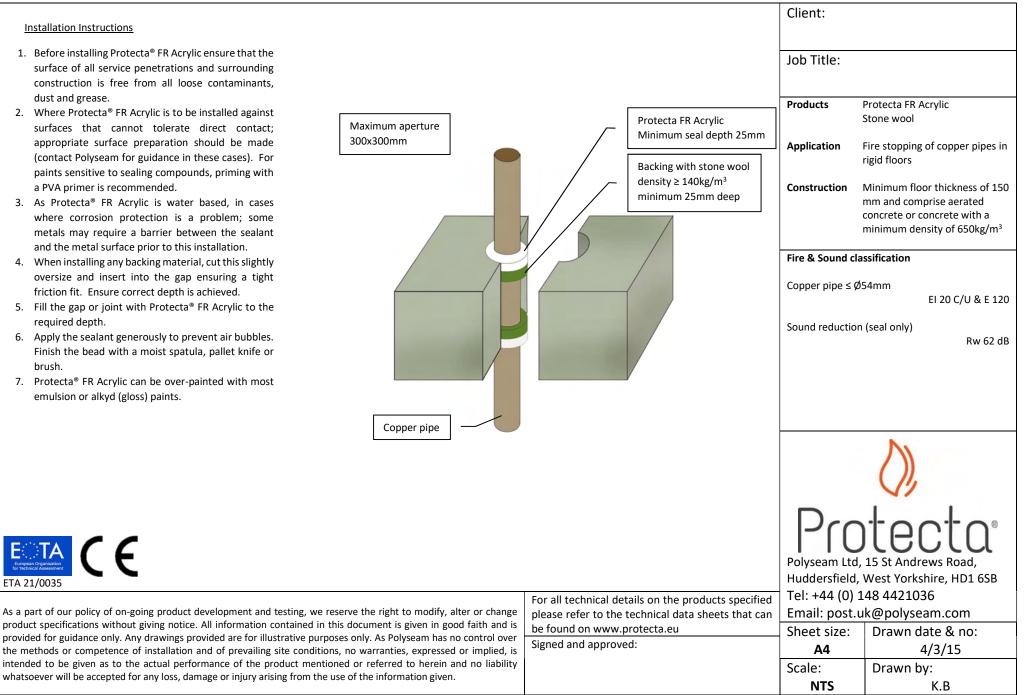
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- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth.
- 6. Apply 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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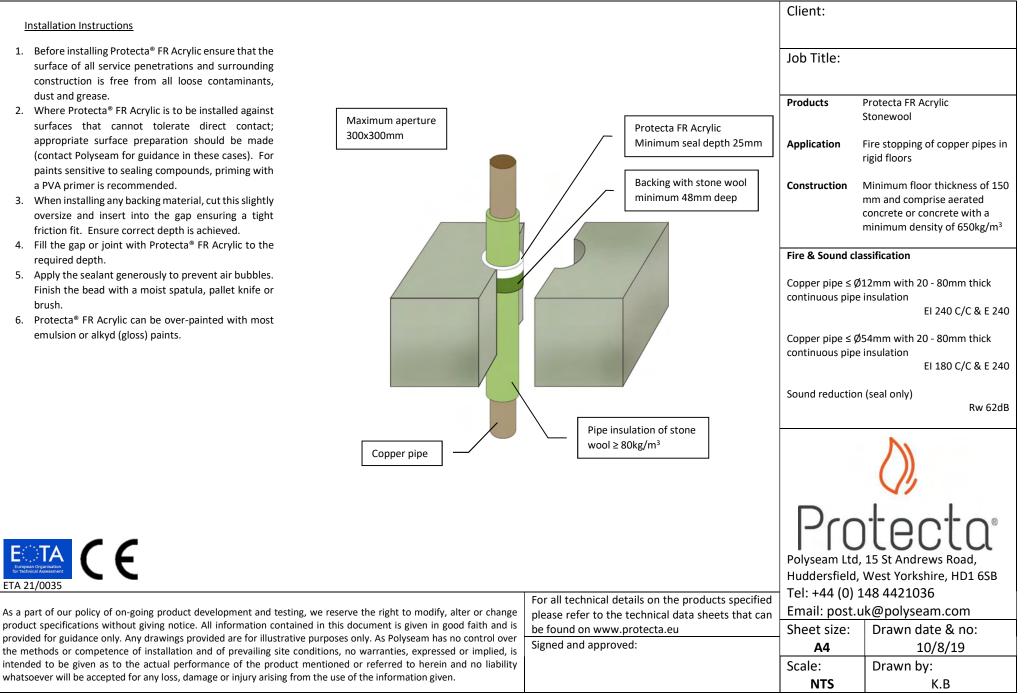


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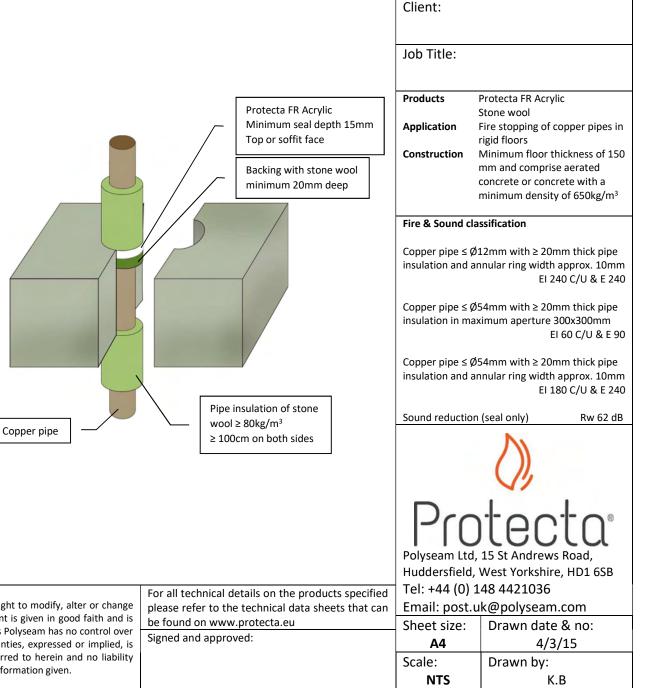
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- 4. When installing Protecta® FR Acrylic in hollow floor slabs or boards, fire seals specified as single sided should be installed from the soffit side of the floor assuming there is sufficient thickness of concrete below the void to follow the installation 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.
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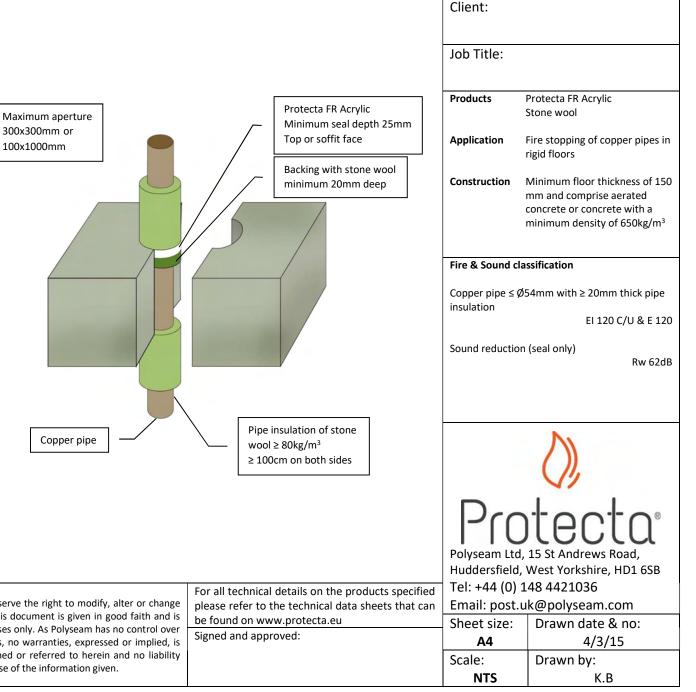
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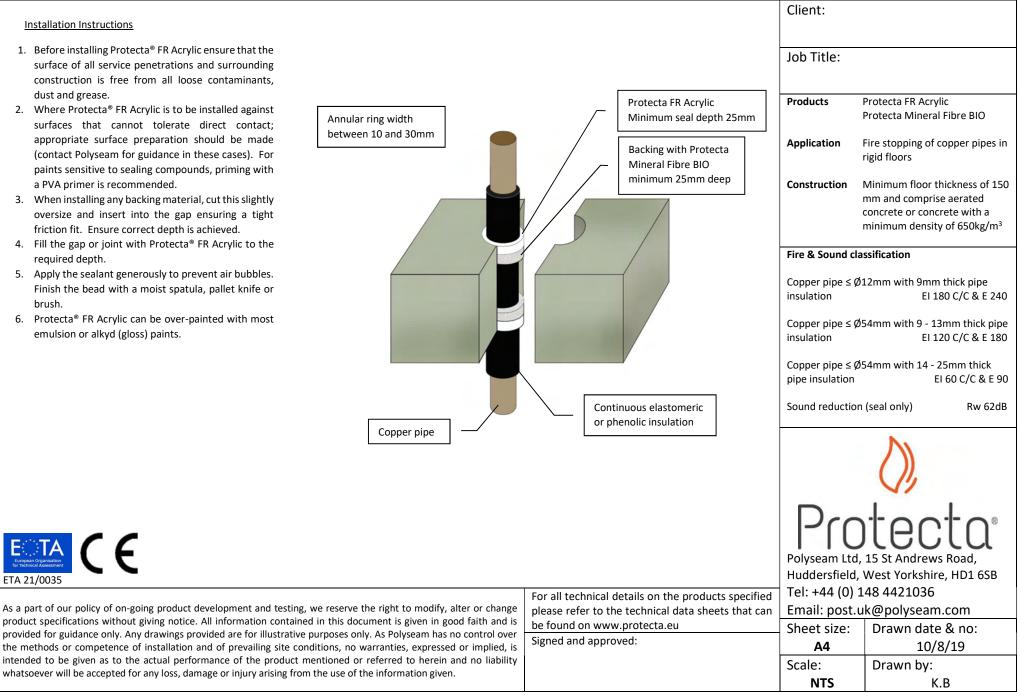
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Europan Organisation for Technical Assessment

ETA 21/0070

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- 2. Place a suitable collar around the pipe insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

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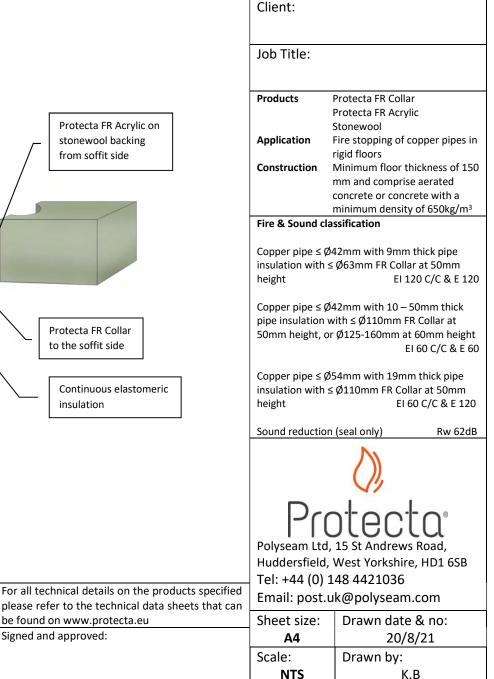
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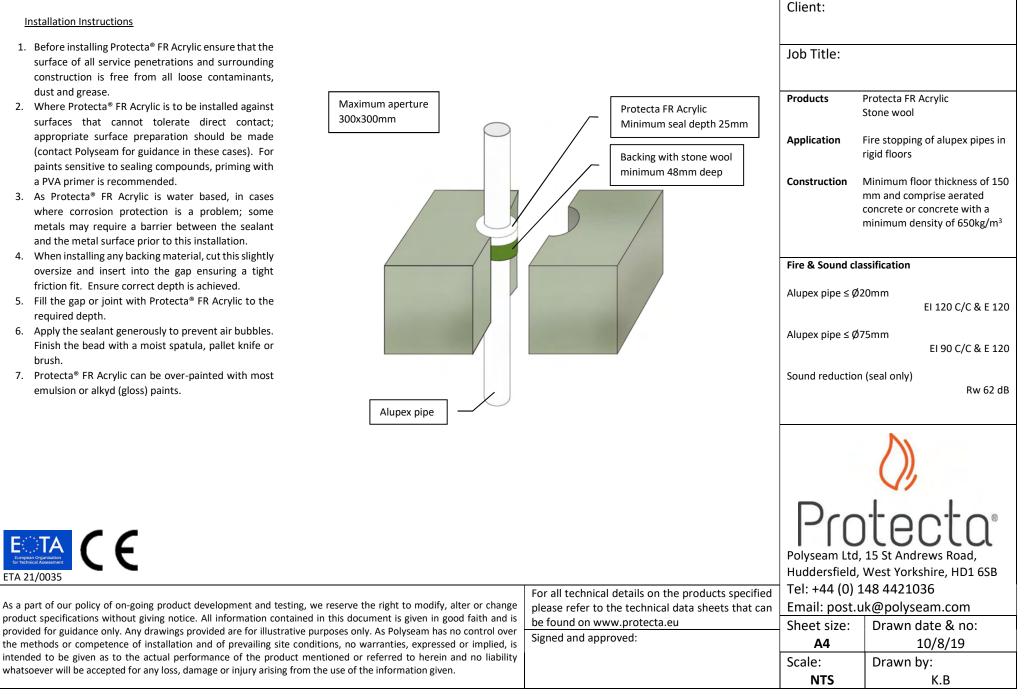
Apertures with minimum 10mm annular width around services Protecta FR Acrylic on Copper pipe stonewool backing from soffit side Protecta FR Collar Masonry screws or expansion bolts to the soffit side Continuous elastomeric insulation

Signed and approved:

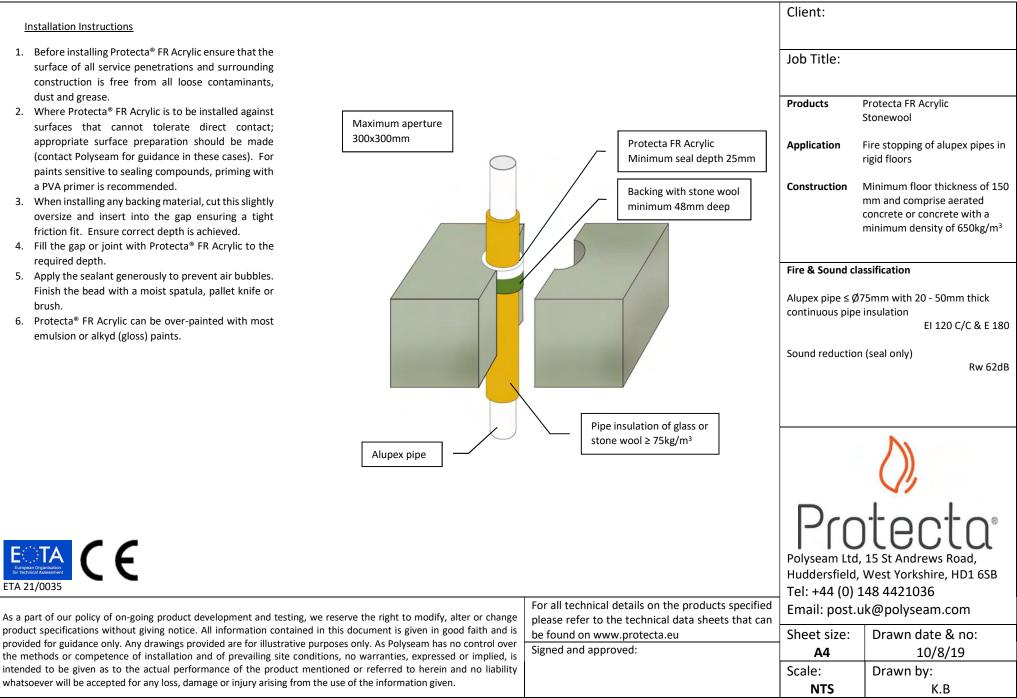


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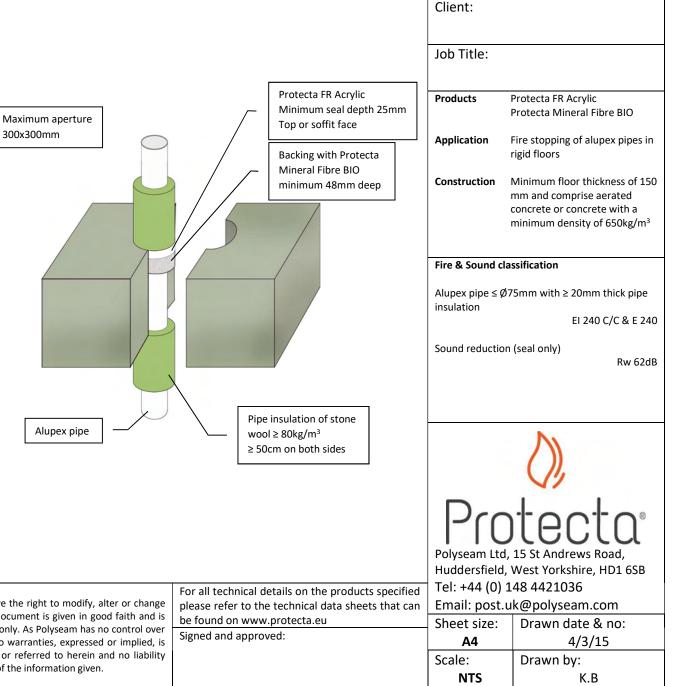
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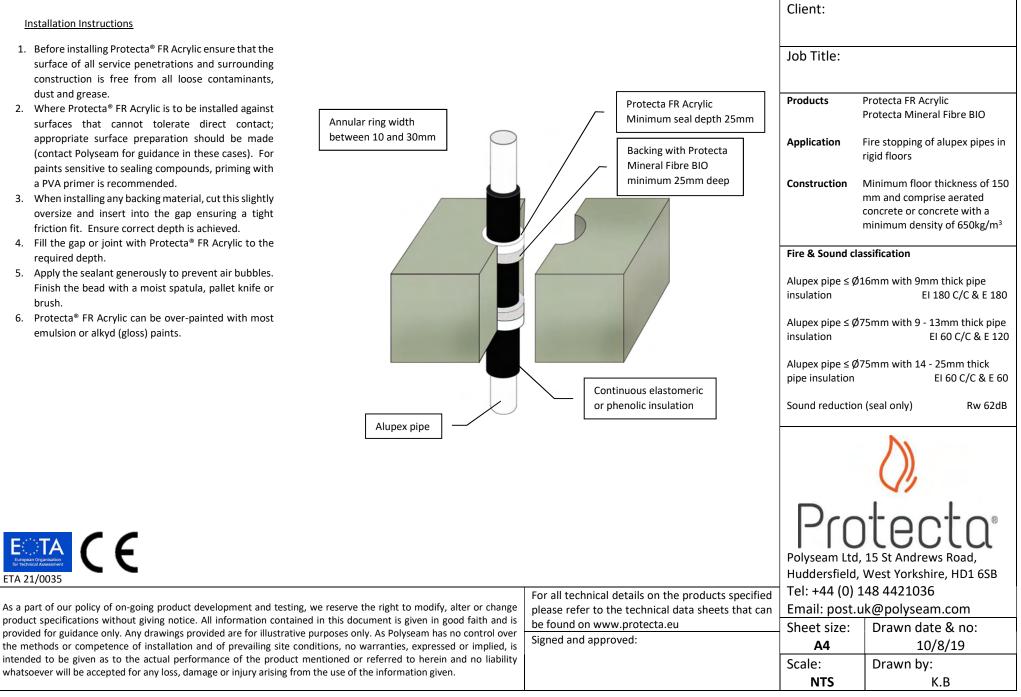


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Europan Organisation for Technical Assessment

ETA 21/0070

- 1. Before fitting the collar ensure that the gaps between the pipe insulation and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipe insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

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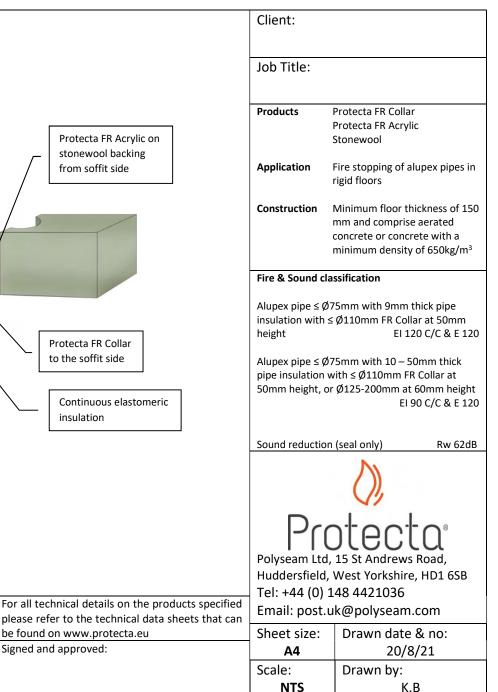
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Apertures with minimum 10mm annular width around services Protecta FR Acrylic on Alupex pipe stonewool backing from soffit side Protecta FR Collar Masonry screws or expansion bolts to the soffit side Continuous elastomeric insulation

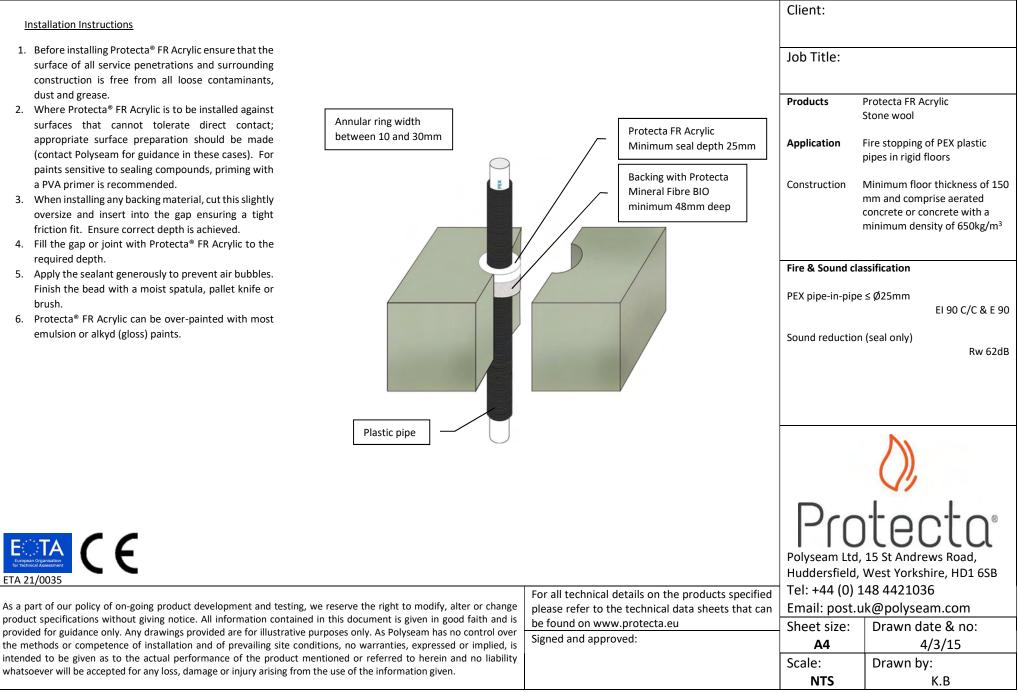
be found on www.protecta.eu

Signed and approved:



European Organisation for Tethnical Assessment

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European Organisation for Technical Assessment

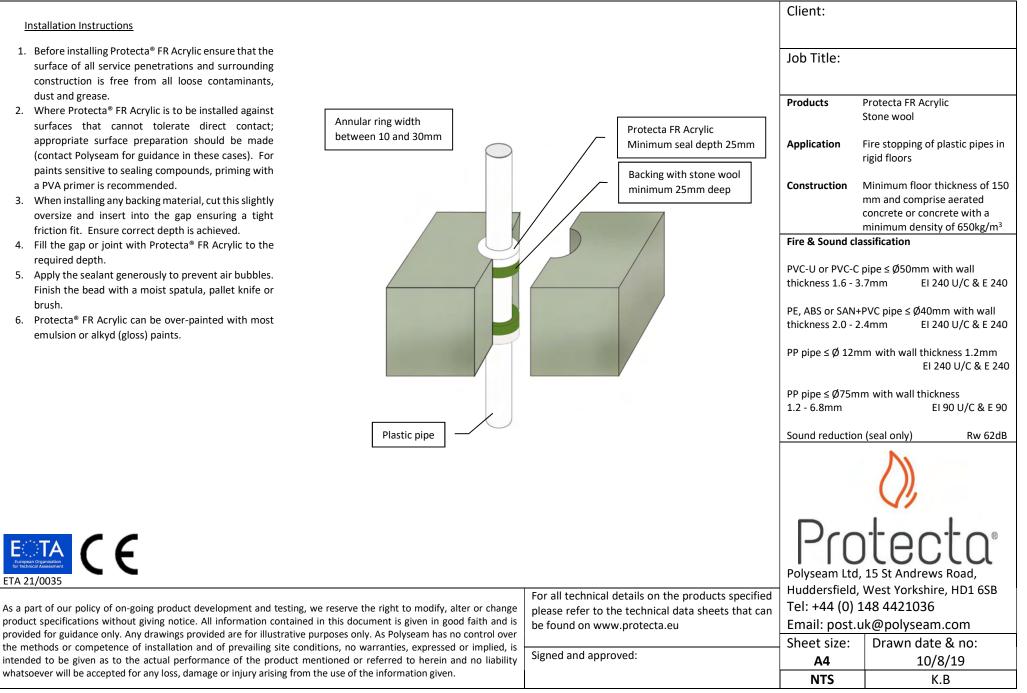
ETA 21/0070

- 1. Before fitting the collar ensure that the gaps between the bundled pipes and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipes and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

Client: Job Title: Apertures with minimum 10mm annular width Products Protecta FR Collar around services Protecta FR Acrylic Protecta FR Acrylic on Stonewool stonewool backing Application Fire stopping of PEX plastic from soffit side Plastic pipes 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-pipes $\leq \emptyset 25$ mm, single, or in a bundle ≤ Ø50mm Masonry screws EI 90 C/C & E 90 Ø50mm Protecta FR or expansion bolts Collar at 50mm height Sound reduction (seal only) Rw 62dB Proteri Polyseam Ltd, 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 22/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

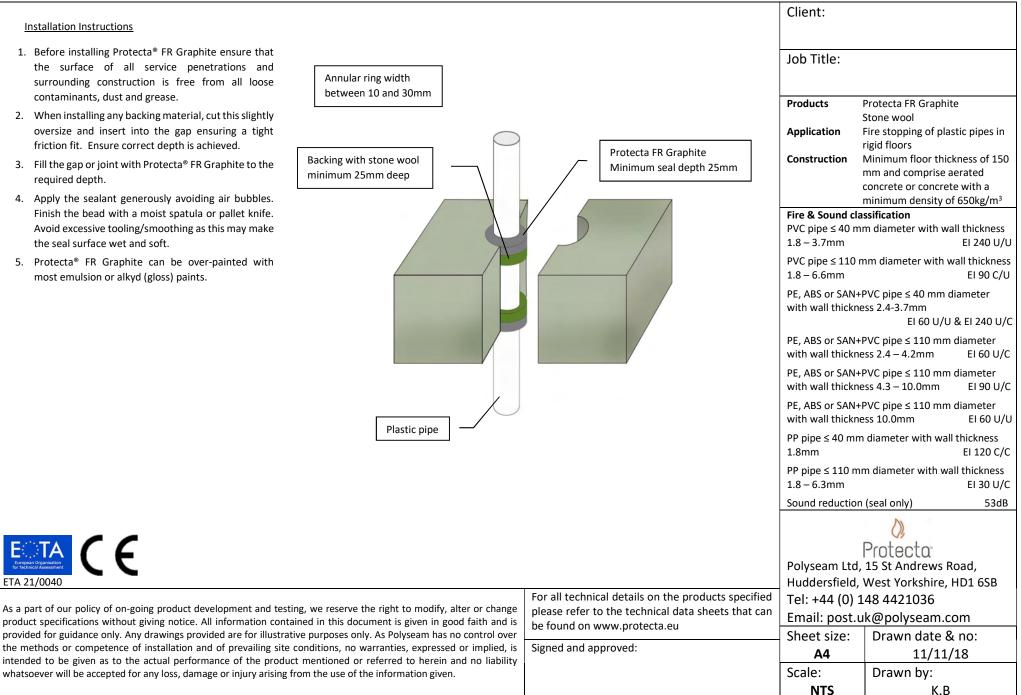
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- 4. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth.
- 5. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
- 6. Protecta[®] FR Acrylic can be over-painted with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



E TA C C

- 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.



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Installation Instructions	Client:	
1. Before installing Protecta [®] FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose Annular ring width	Job Title:	
 contaminants, dust and grease. 2. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight 	Products	Protecta FR Graphite Stone wool
friction fit. Ensure correct depth is achieved. Backing with Protecta 3. Fill the gap or joint with Protecta® FR Graphite to the Mineral Fibre BIO	Application	Fire stopping of plastic pipes in rigid floors
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.	Construction	Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
 5. Protecta® FR Graphite can be over-painted with most emulsion or alkyd (gloss) paints. 	4.0 – 9.5mm PE, ABS or SAN	assification mm diameter with wall thickness EI 60 U/C PVC pipe ≤ 160 mm diameter tess $4.9 - 14.6$ mm EI 30 U/C
	PE, ABS or SAN- with wall thickr	+PVC pipe ≤ 160 mm diameter less 14.6mm EI 60 U/C
	Sound reductio	n (seal only) 53dB
Plastic pipe		$\langle \rangle \rangle$
		, 15 St Andrews Road,
ETA 21/0040	Tel: +44 (0)	West Yorkshire, HD1 6SB 148 4421036
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 be found on www.protecta.eu		uk@polyseam.com Drawn date & no:
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	A4 Scale:	11/11/18 Drawn by:
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- 1. Before fitting the collar ensure that the gaps between the pipe and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

Apertures with minimum 10mm annular width around services Protecta FR Acrylic on stonewool backing from soffit side Plastic pipe Protecta FR Collar Masonry screws on soffit side or expansion bolts

Services	Min.	Classification		Services	Min.	
	Collar				Collar	
	Height				Height	
≤ Ø50mm PVC-U & PVC-C		EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90)		≤ Ø50mm PP		EI 120 C/C,
≤ Ø90mm PVC-U & PVC-C		EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U	ļ	≤ Ø110mm PP		EI 120 C/C,
≤ Ø110mm PVC-U & PVC-C		EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U		≤Ø140mm PP		EI 120 C/C,
≤ Ø110mm PVC-U & PVC-C		EI 120 C/C, EI 90 U/C (E 120), EI 60 C/U		≤ Ø160mm PP	60mm	EI 180 C/C
≤ Ø160mm PVC-U & PVC-C	60mm	EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U		≤ Ø200mm PP	60mm	EI 120 C/C
≤ Ø200mm PVC-U & PVC-C	60mm	EI 60 C/C (E 120)		≤ Ø250mm PP	75mm	EI 60 C/C
≤ Ø315mm PVC-U & PVC-C	75mm	EI 60 C/C		Ø315x28.6mm PP	75mm	EI 60 C/C
≤ Ø400mm PVC-U & PVC-C	100mm	EI 60 C/C		≤ Ø400mm PP	100mm	EI 30 C/C
≤ Ø55mm 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 240 C/C, EI 240 U/C, EI 60 C/U, EI 60 U/U				
≤ Ø110mm PE, ABS & SAN+PVC	30mm	EI 60 C/C, EI 60 U/C				
≤ 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				
≤ Ø200mm PE, ABS & SAN+PVC	60mm	EI 120 C/C (E 240)				
≤ Ø250mm PE, ABS & SAN+PVC	75mm	EI 240 C/C				
Ø315x18.7mm PE, ABS & SAN+PVC	75mm	EI 240 C/C				
Ø400x36.3mm PE, ABS & SAN+PVC	100mm	EI 90 C/C				

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	Client:		
Protecta FR Acrylic on stonewool backing from soffit side	Job Title:		
		Protecta FR Collar Protecta FR Acrylic Stonewool	
		Fire stopping of plastic pipes in rigid floors	
Protecta FR Collar on soffit side		Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³	
on some side	Fire & Sound classification		
Min. Classification Collar Height	Fire classifications in tables on the left. For full specifications, please refer to the Installation Instructions.		
30mm EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U 50mm EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U 60mm EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U 60mm EI 120 C/C, EI 120 U/C, EI 60 C/U, EI 60 U/U 60mm EI 180 C/C, EI 180 U/C, EI 60 C/U, EI 60 U/U 60mm EI 180 C/C, EI 180 U/C, EI 60 C/U, EI 60 U/U 60mm EI 120 C/C	Sound reduction (seal only) Rw 62dB		
75mm EI 60 C/C 75mm EI 60 C/C 100mm EI 30 C/C		$\langle \rangle$	
Etra 21/0070	Huddersfield, West Yorkshire, HD1 6SB		
For all technical details on the products specified	Tel: +44 (0) 148 4421036		
please refer to the technical data sheets that can	Email: post.uk@polyseam.com		
be found on www.protecta.eu Signed and approved:	Sheet size: Drawn date & no:		
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	Scale:	Drawn by:	
	NTS	K.B	

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- 1. Before fitting the collar ensure that the gaps between the pipe insulation and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipe insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta® FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

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Client: Job Title: Apertures with minimum 10mm annular width Products Protecta FR Collar around services Protecta FR Acrylic Protecta FR Acrylic on Stonewool Plastic pipe stonewool backing Application Fire stopping of insulated plastic pipes in rigid floors from soffit side Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification PE pipe $\leq Ø160$ mm with wall thickness 3.0 -9.5mm and 9mm thick pipe insulation EI 180 C/C & E 180 PE pipe $\leq Ø160$ mm with wall thickness 3.0 -9.5mm and 10 – 50mm thick pipe insulation ≤ Ø110mm Protecta FR Collar EI 120 C/C & E 120 Masonry screws at 50mm height, or Ø125 or expansion bolts 200mm at 60mm height, or PP pipe $\leq Ø160$ mm with wall thickness 1.8 – Ø250 - 315mm at 75mm height 9.1mm and 9mm thick pipe insulation EI 120 C/C & E 180 Continuous elastomeric PP pipe $\leq Ø160$ mm with wall thickness 1.8 – insulation 9.1mm and 10 – 50mm thick pipe insulation EI 60 C/C & E 60 Sound reduction (seal only) Rw 62dB Protecto Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is Drawn date & no: Sheet size: be found on www.protecta.eu provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 22/8/21 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 Scale: Drawn by:

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- Before fitting the collar ensure that the gaps between the pipe and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and 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 collar shell.
- Attach the collar with ≥ Ø4 x 40mm long masonry screws or expansion bolts.

Apertures with minimum 10mm annular width Protecta FR Acrylic on around services stonewool backing from soffit side Composite plastic pipe Protecta FR Collar Masonry screws on soffit side or expansion bolts Services Minimum Collar Classification Height ≤ Ø32mm Aguatherm Green SDR9 30mm EI 240 C/C ≤ Ø50mm Aguatherm Green SDR9 50mm EI 240 C/C ≤ Ø110mm Aquatherm Green SDR9 50mm EI 120 C/C ≤ Ø50mm BluePower EI 180 C/C, EI 180 U/C, EI 180 C/U, EI 180 U/U 50mm ≤ Ø110mm BluePower EI 180 C/C, EI 180 U/C, EI 180 C/U 50mm Ø125mm BluePower EI 180 C/C. EI 180 U/C. EI 180 C/U 60mm Ø160mm BluePower 60mm EI 240 C/C. EI 240 U/C. EI 240 C/U ≤ Ø50mm Geberit Silent-PP 50mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø110mm Geberit Silent-PP EI 180 C/C, EI 180 U/C, EI 180 C/U 50mm ≤ Ø50mm Polo-Kal NG pipes 50mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø110mm Polo-Kal NG pipes 50mm EI 240 C/C. EI 240 U/C. EI 240 C/U Ø125mm Polo-Kal NG pipes EI 240 C/C, EI 240 U/C 60mm Ø160mm Polo-Kal NG pipes 60mm EI 240 C/C, EI 240 U/C (E 240 C/U) ≤ Ø50mm Rehau Raupiano Plus EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U 50mm ≤ Ø110mm Rehau Raupiano Plus 50mm EI 120 C/C, EI 120 U/C, EI 120 C/U EI 180 C/C, EI 180 U/C, EI 180 C/U Ø125mm Rehau Raupiano Plus 60mm Ø160mm Rehau Raupiano Plus EI 240 C/C, EI 240 U/C (E 240 C/U) 60mm Ø 50mm Uponor Decibel 50mm EI 180 C/C. EI 180 U/C. EI 180 C/U. EI 180 U/U ≤ Ø110mm Uponor Decibel EI 120 C/C, EI 120 U/C, EI 120 C/U 50mm ≤ Ø50mm Wavin SiTech 50mm EI 240 C/C, EI 240 U/C, EI 240 C/U, EI 240 U/U ≤ Ø110mm Wavin SiTech EI 180 C/C, EI 180 U/C, EI 180 C/U 50mm



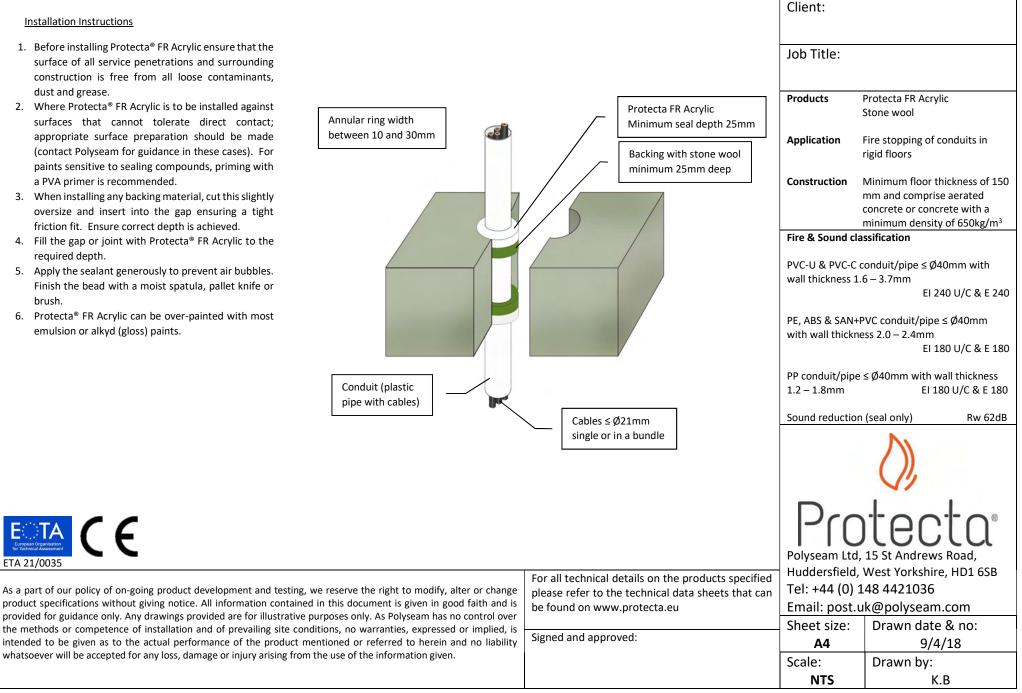
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Client: Job Title: Products Protecta FR Collar Protecta FR Acrylic Stonewool Application Fire stopping of composite plastic pipes in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Fire classifications in tables on the left. For full specifications, please refer to the Installation Instructions. Sound reduction (seal only) Rw 62dB Protect Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com please refer to the technical data sheets that can Drawn date & no: Sheet size: 20/8/21 A4 Scale: Drawn by:

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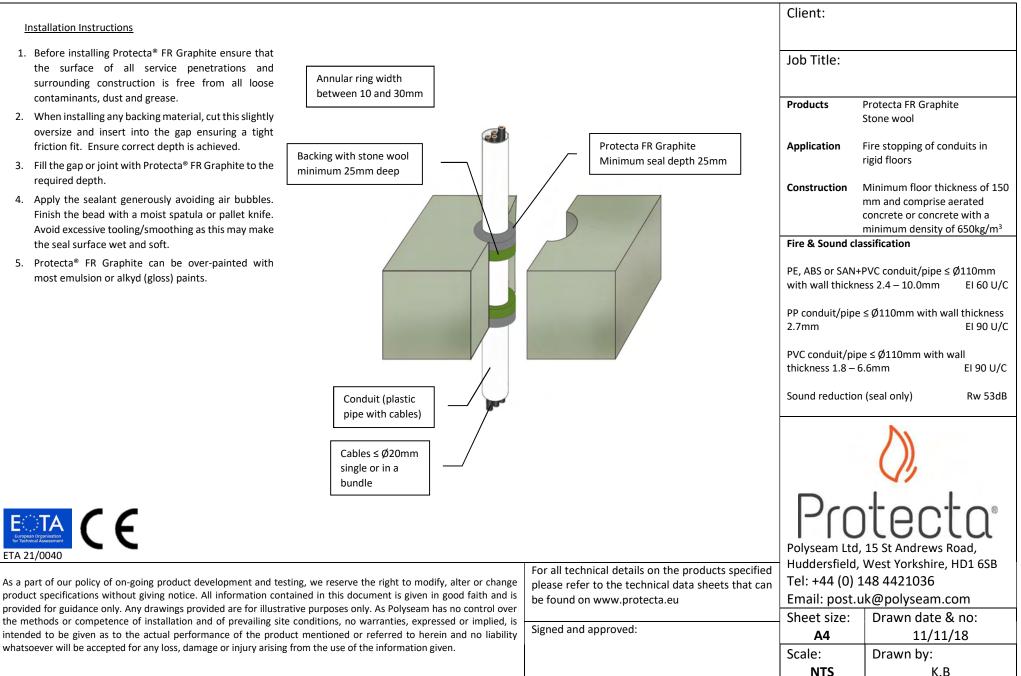
- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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.



- 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.

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- 1. Before fitting the collar ensure that the gaps between the bundled pipes and the separating element are sealed with minimum 10mm deep Protecta FR Acrylic on 40mm deep stone wool backing.
- 2. Place a suitable collar around the pipes and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the floor, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the floor and the collar shell.
- 4. Attach the collar with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

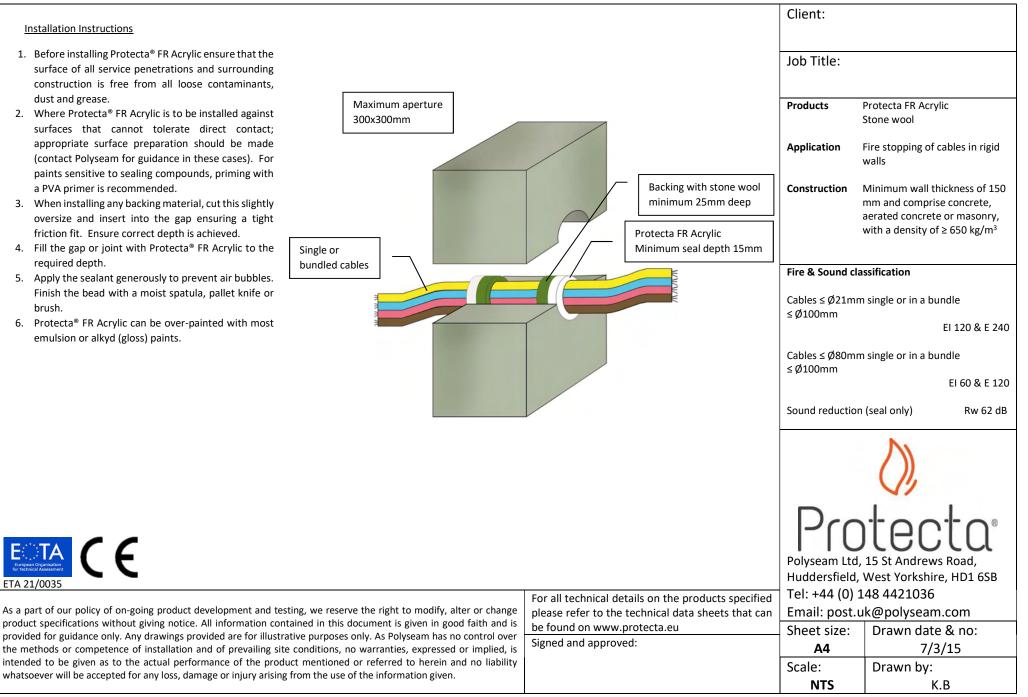
Client: Job Title: Apertures with minimum 10mm annular width Products Protecta FR Collar around services Protecta FR Acrylic Protecta FR Acrylic on Stonewool stonewool backing Application Fire stopping of plastic pipes and cables in rigid floors from soffit side Plastic pipes Construction Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification PVC pipes $\leq Ø32$ mm, single, or in a bundle ≤ 0160 mm with wall thickness 1.0 – 2.4 mm EI 90 C/U & E 90 PE & ABS pipes $\leq Ø32$ mm, single, or in a bundle ≤ 0160 mm with wall thickness 2.0 – 3.0 mm Masonry screws ≤ Ø110mm FR Collar at 50mm EI 90 C/U & E 90 or expansion bolts height, or Ø125-160mm FR Collar at 60mm height PP pipes $\leq Ø32$ mm, single, or in a bundle \leq Ø160mm with wall thickness 1.8 – 4.4mm EI 90 C/U & E 90 Pipes with or without Sound reduction (seal only) Rw 62dB cables $\leq Ø21$ mm, singles or in bundles Protect Polyseam Ltd, 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 22/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

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

		Client:		
Installation Instructions				
 Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, 		Job Title:		
 dust and grease. 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; 		Products	Protecta FR Acrylic Protecta Mineral Fibre BIO	
appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming with	Backing with Protecta Mineral Fibre BIO	Application	Fire stopping of cables in rigid walls	
 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 	minimum 48mm deep Protecta FR Acrylic Minimum seal depth 25mm	Construction	Minimum wall thickness of 150 mm and comprise concrete, aerated concrete or masonry, with a density of \geq 650 kg/m ³	
required depth. 5. Apply the sealant generously to prevent air bubbles.		Fire & Sound cl	assification	
Finish the bead with a moist spatula, pallet knife or brush.		Cable ≤ Ø21mm 300x300mm	in maximum aperture El 60 & E 240	
6. Protecta [®] FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.	Cable $\leq \emptyset 21$ mm in maximum aperture $\emptyset 87$ mm El 90 & E 240			
		Cable ≤ Ø21mm 35x35mm or Ø	in maximum aperture 36mm El 120 & E 240	
		Sound reduction	n (seal only) Rw 62 dB	
			$\langle \rangle$	
		Pro	otecta	
European Organisation for Technical Assessment			, 15 St Andrews Road, West Yorkshire, HD1 6SB	
ETA 21/0035			,	
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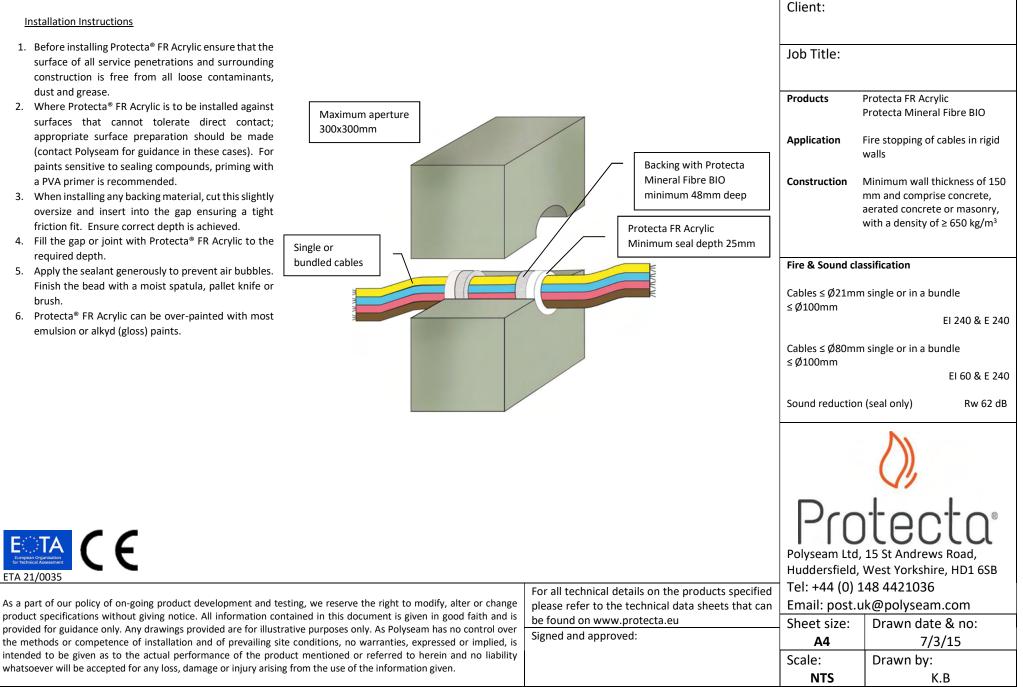
European Organisation for Tethnical Assessment

- 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.



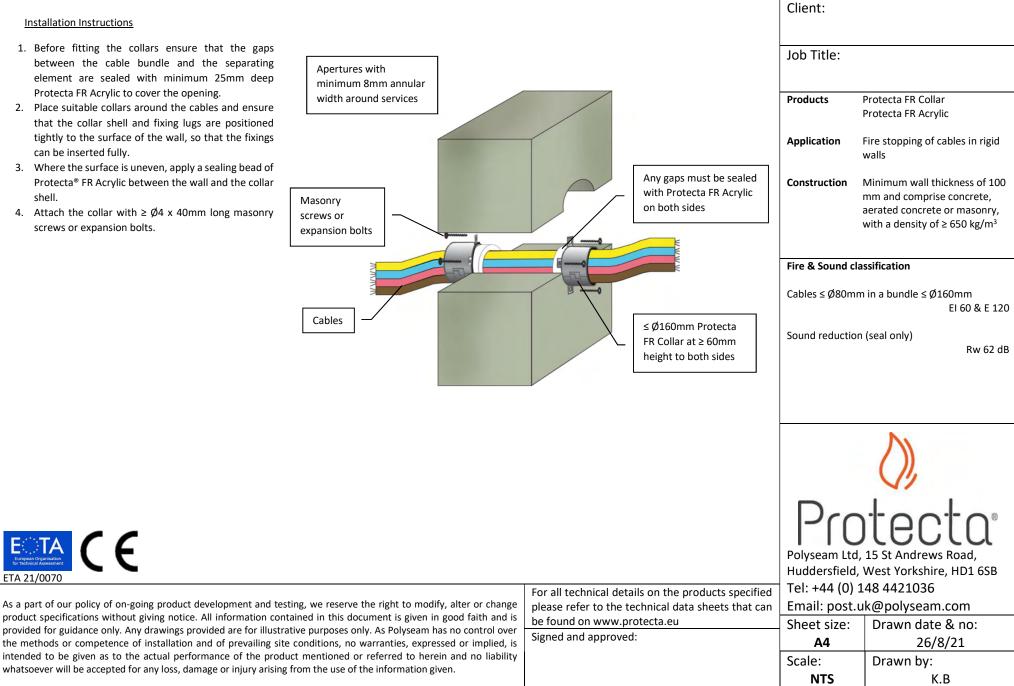
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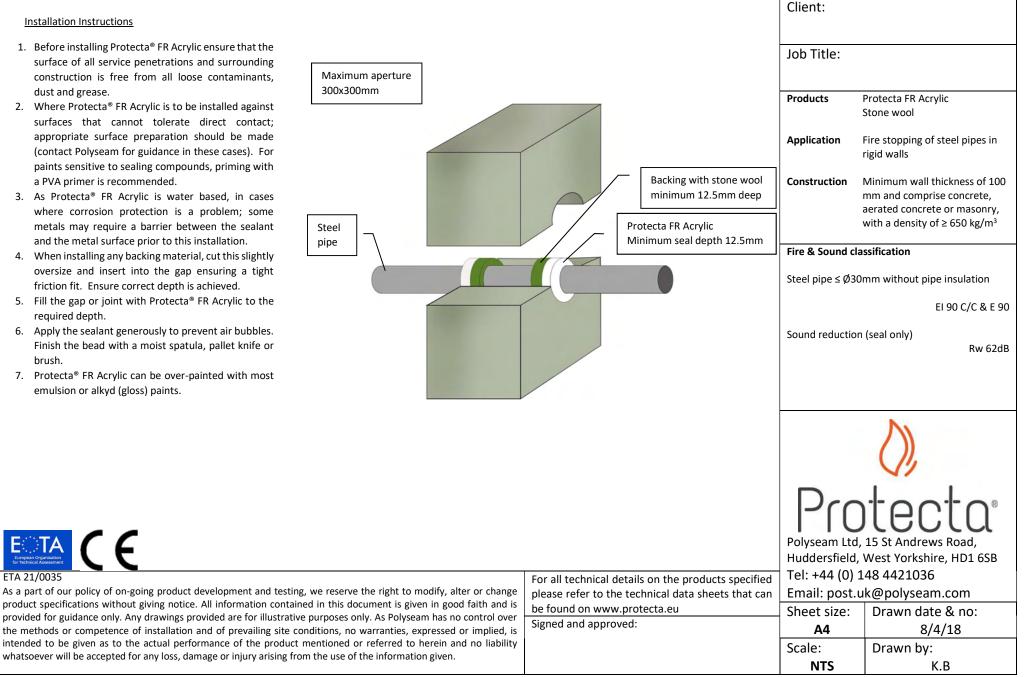
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- 1. Before fitting the collars ensure that the gaps between the cable bundle and the separating element are sealed with minimum 25mm deep Protecta FR Acrylic to cover the opening.
- 2. Place suitable collars around the cables and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with $\ge 0.4 \times 40$ mm long masonry screws or expansion bolts.



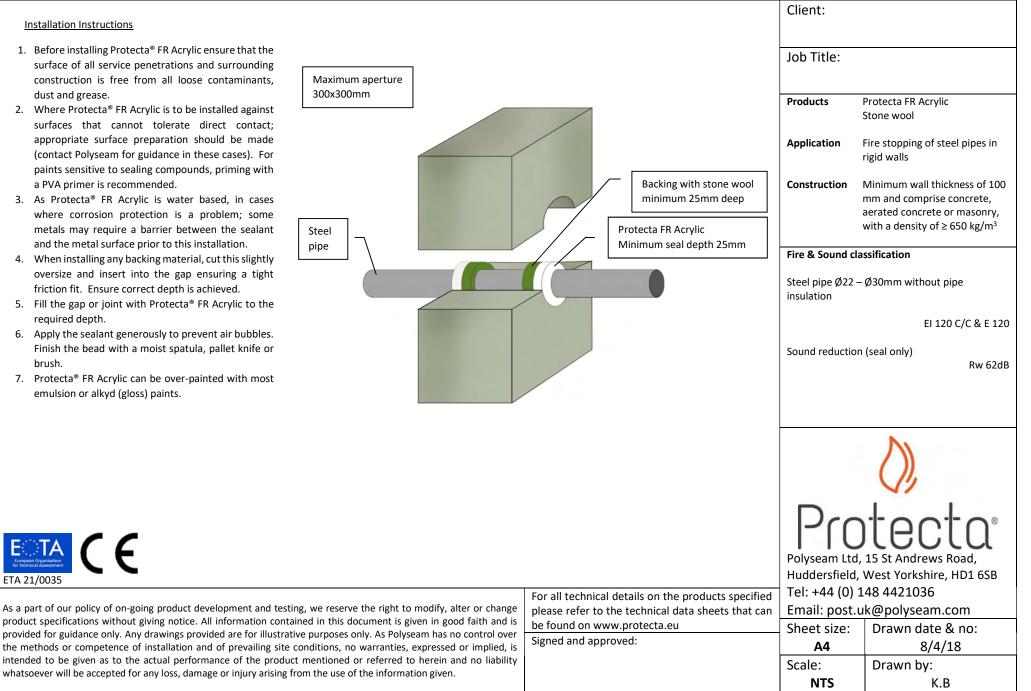
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- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming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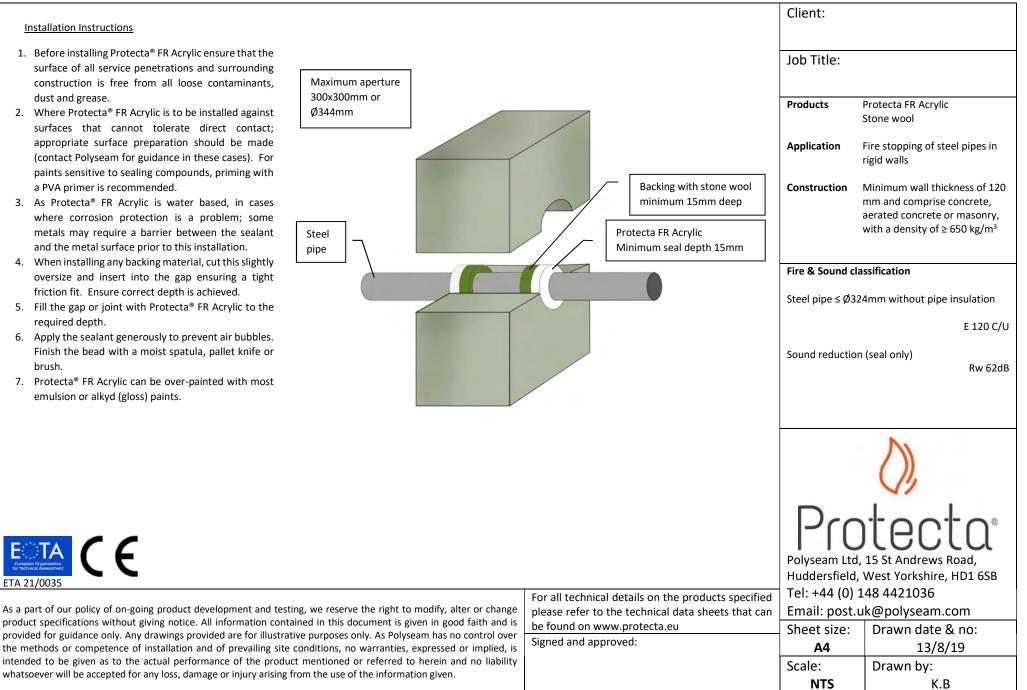
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- 3. As Protecta[®] FR Acrylic is water based, in cases where corrosion protection is a problem; some metals may require a barrier between the sealant and the metal surface prior to this installation.
- 4. When installing any backing material, cut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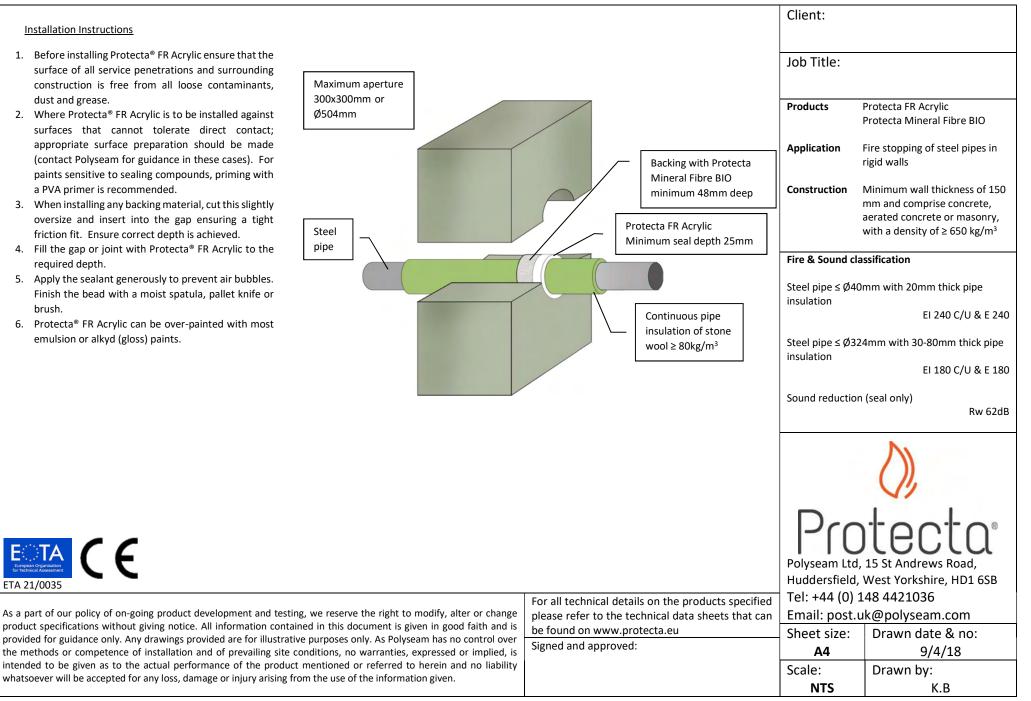
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- 4. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. Ensure correct depth is achieved.
- 5. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth.
- 6. Apply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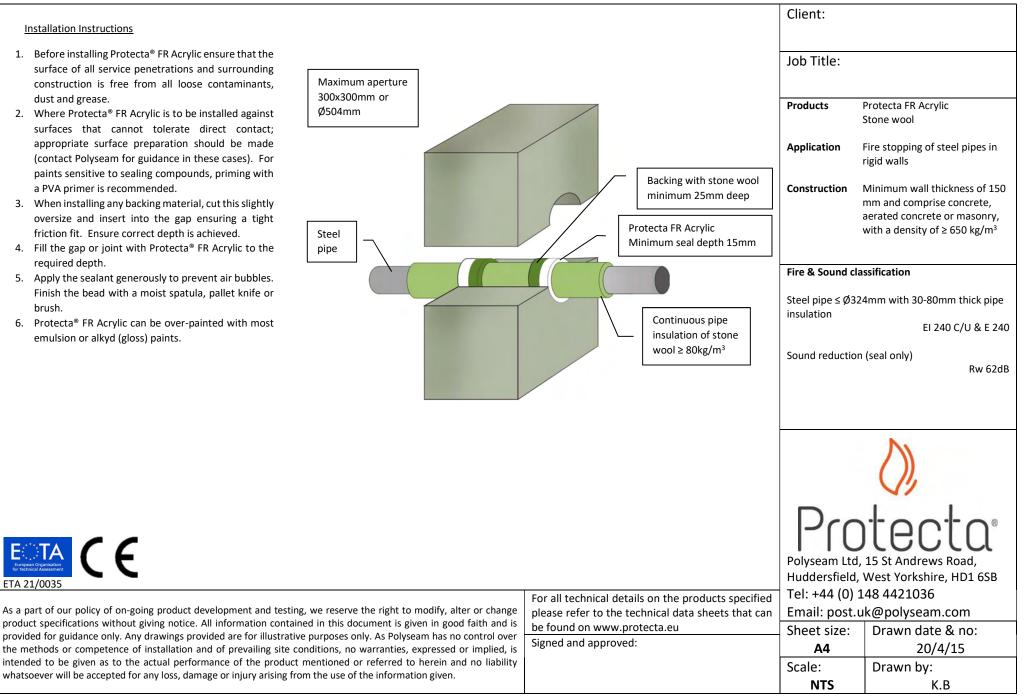
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- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
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- 3. When installing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



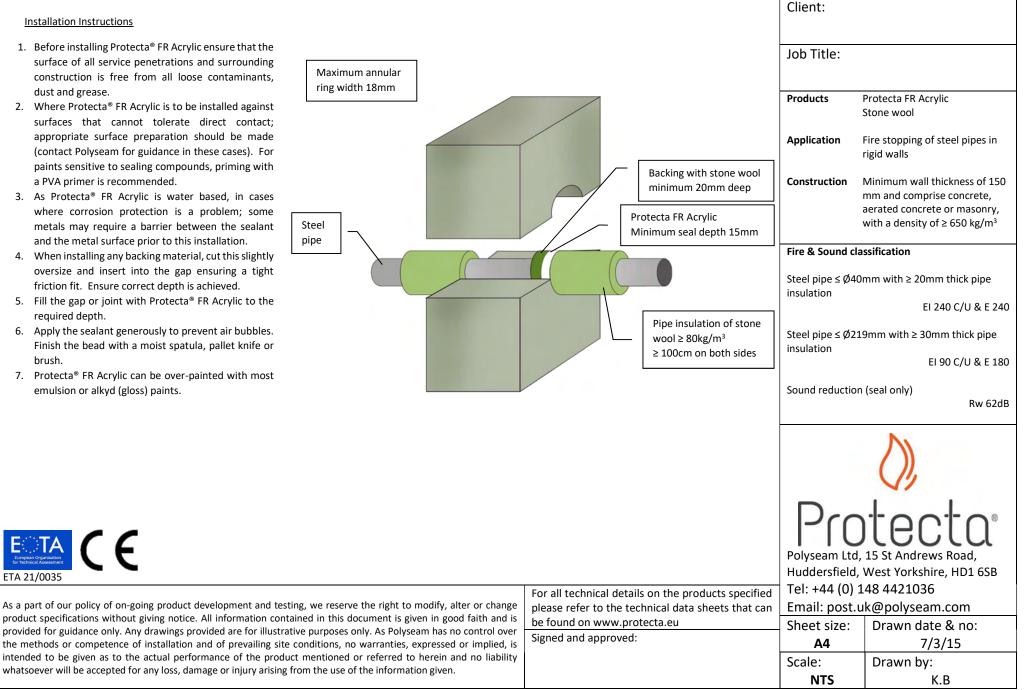
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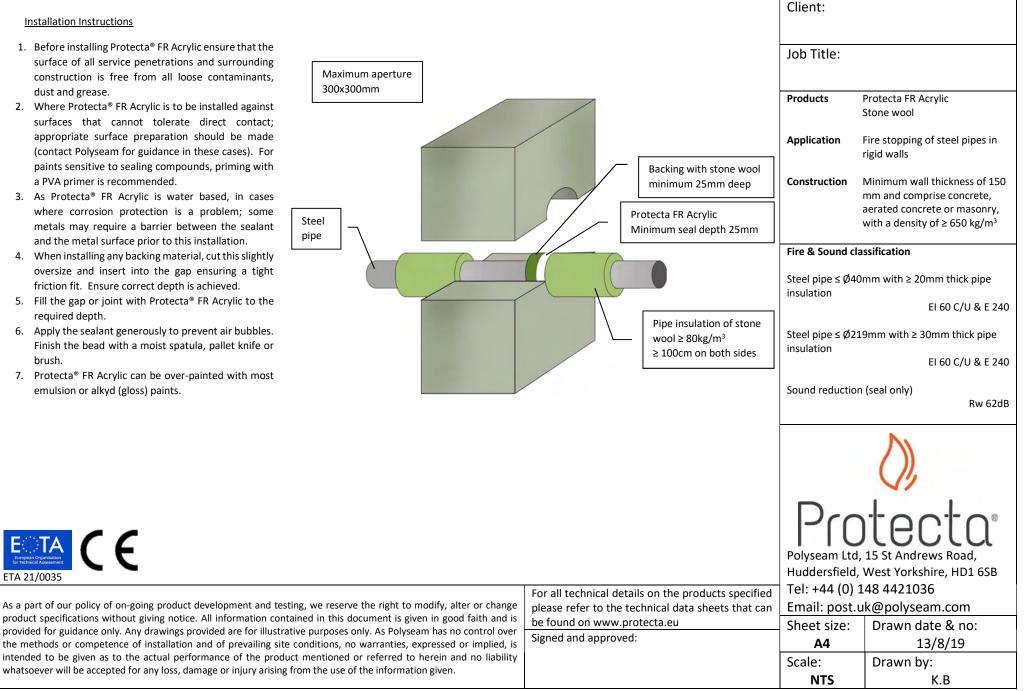
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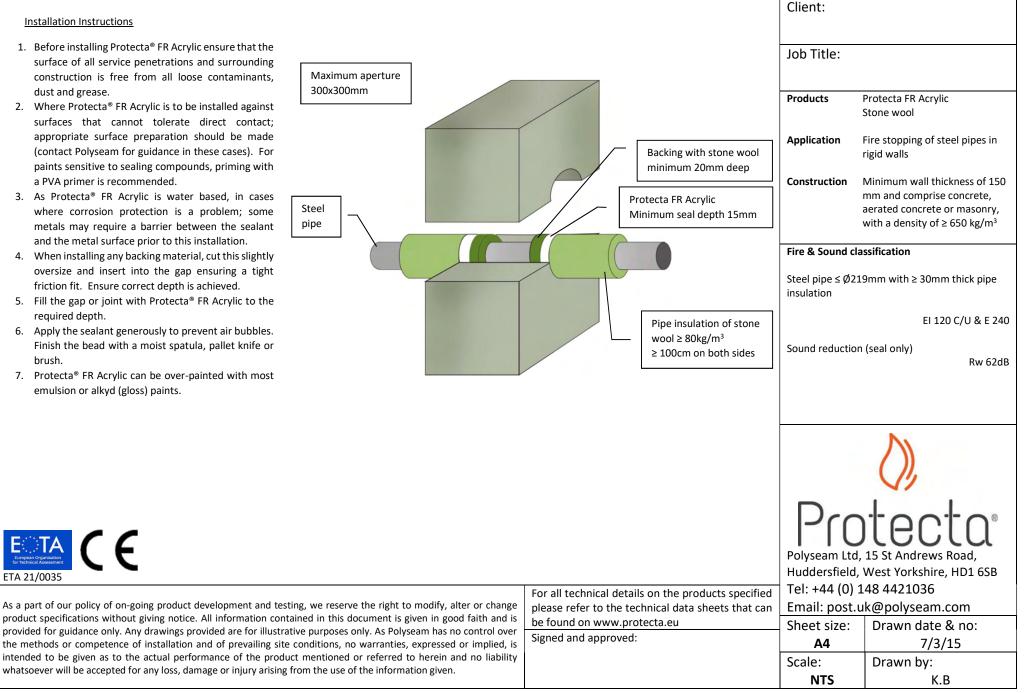
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Client: Installation Instructions 1. Before installing Protecta[®] FR Acrylic ensure that the Job Title: surface of all service penetrations and surrounding Annular ring width construction is free from all loose contaminants, between 10 and 30mm dust and grease. Products Protecta FR Acrylic 2. Where Protecta[®] FR Acrylic is to be installed against Stone wool surfaces that cannot tolerate direct contact; Application Fire stopping of steel pipes in appropriate surface preparation should be made rigid walls (contact Polyseam for guidance in these cases). For Minimum wall thickness of 150 Construction Backing with paints sensitive to sealing compounds, priming with mm and comprise concrete, stonewool minimum a PVA primer is recommended. aerated concrete or masonry, 25mm deep Protecta FR Acrvlic with a density of $\geq 650 \text{ kg/m}^3$ 3. When installing any backing material, cut this slightly Minimum seal depth 25mm **Fire & Sound classification** oversize and insert into the gap ensuring a tight Steel pipe $\leq \emptyset 22$ mm with 13mm thick pipe friction fit. Ensure correct depth is achieved. insulation EI 180 C/U & E 240 4. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth. Steel pipe $\leq \emptyset$ 40mm with 13 – 19mm thick pipe 5. Apply the sealant generously to prevent air bubbles. EI 120 C/C & E 120 insulation Finish the bead with a moist spatula, pallet knife or Steel pipe brush. Continuous Steel pipe $\leq Ø114$ mm with 13 – 25 mm thick 6. Protecta[®] FR Acrylic can be over-painted with most elastomeric insulation EI 90 C/U & E 120 pipe insulation emulsion or alkyd (gloss) paints. Steel pipe $\leq Ø114$ mm with 26 – 50mm thick EI 60 C/U & E 60 pipe insulation Steel pipe $\leq Ø165$ mm with 13 – 25mm thick EI 60 C/U & E 60 pipe insulation Sound reduction (seal only) Rw 62dB Protect EUTA C C Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB ETA 21/0035 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Sheet size: Drawn date & no: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 18/8/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

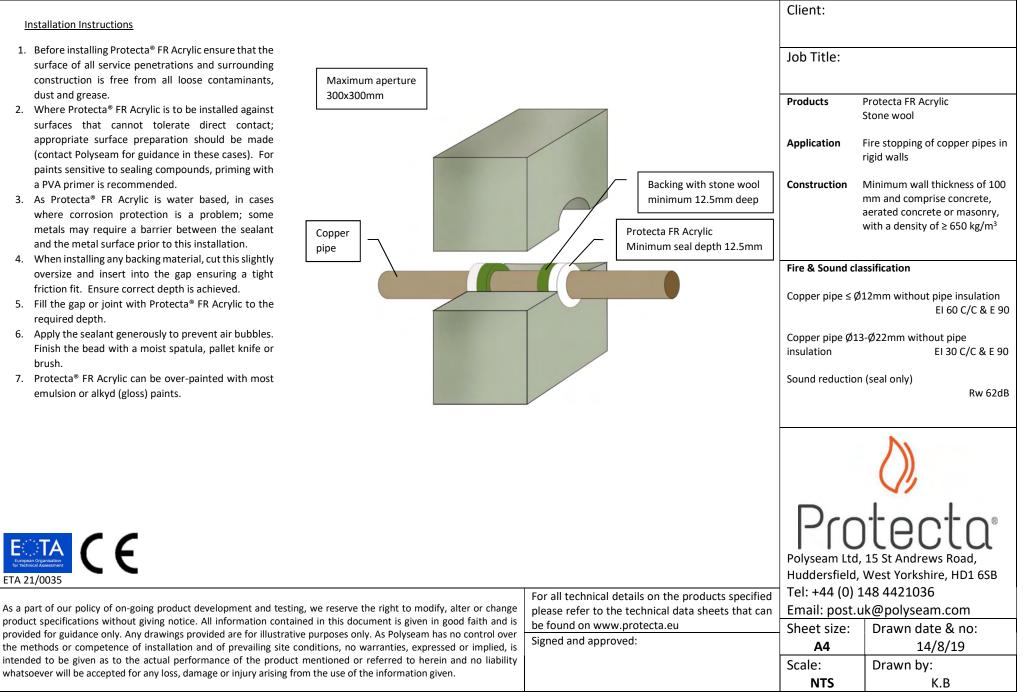
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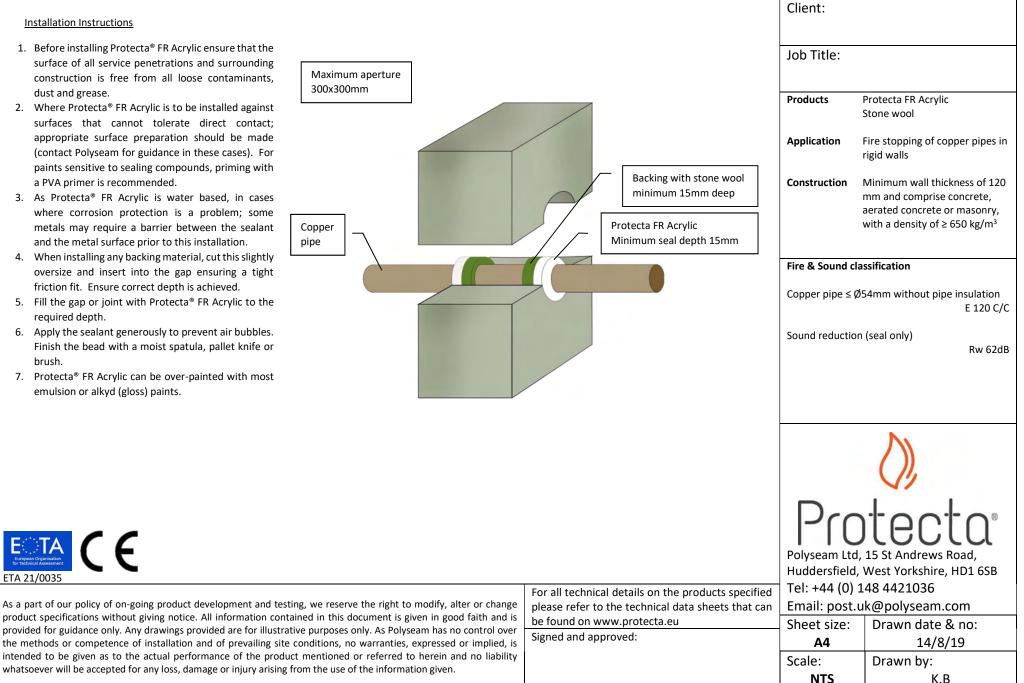
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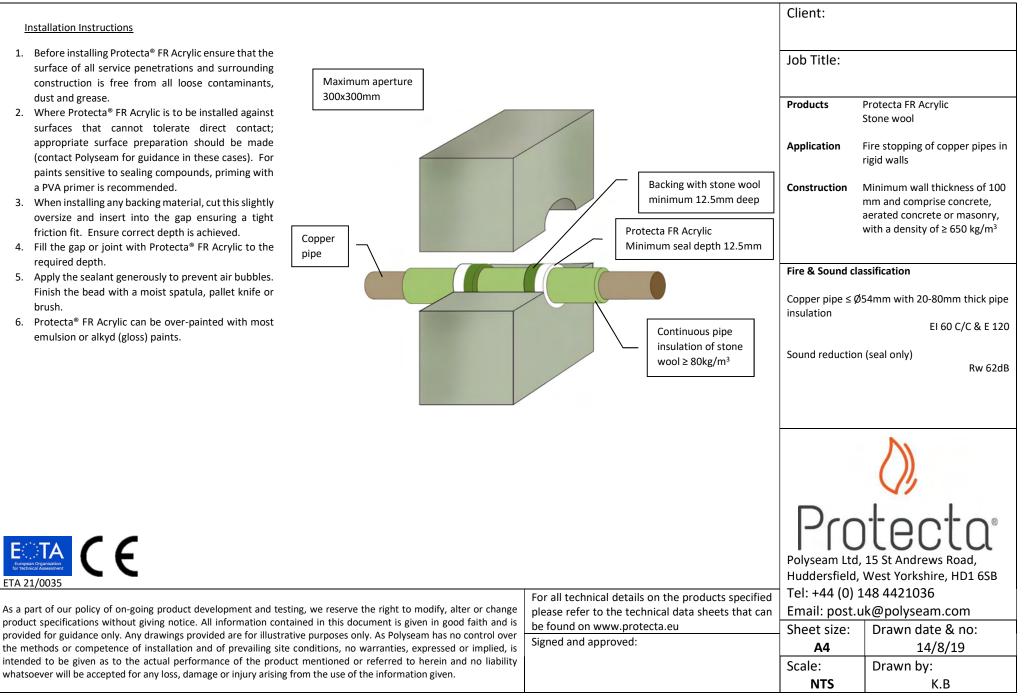
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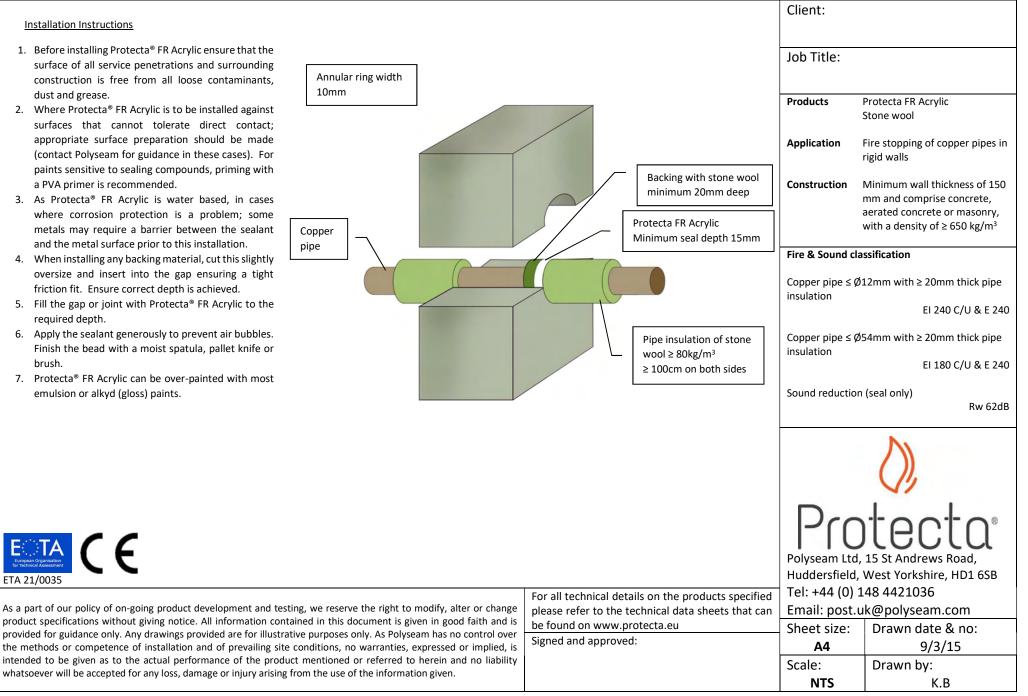
Ecores Organisation for Technical Assessment

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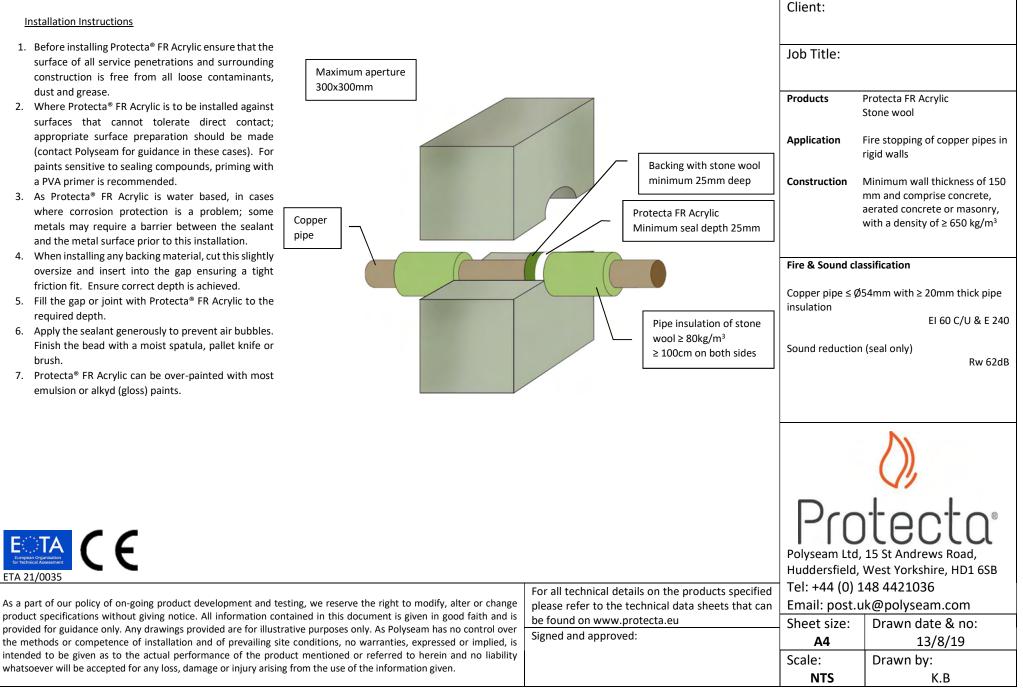
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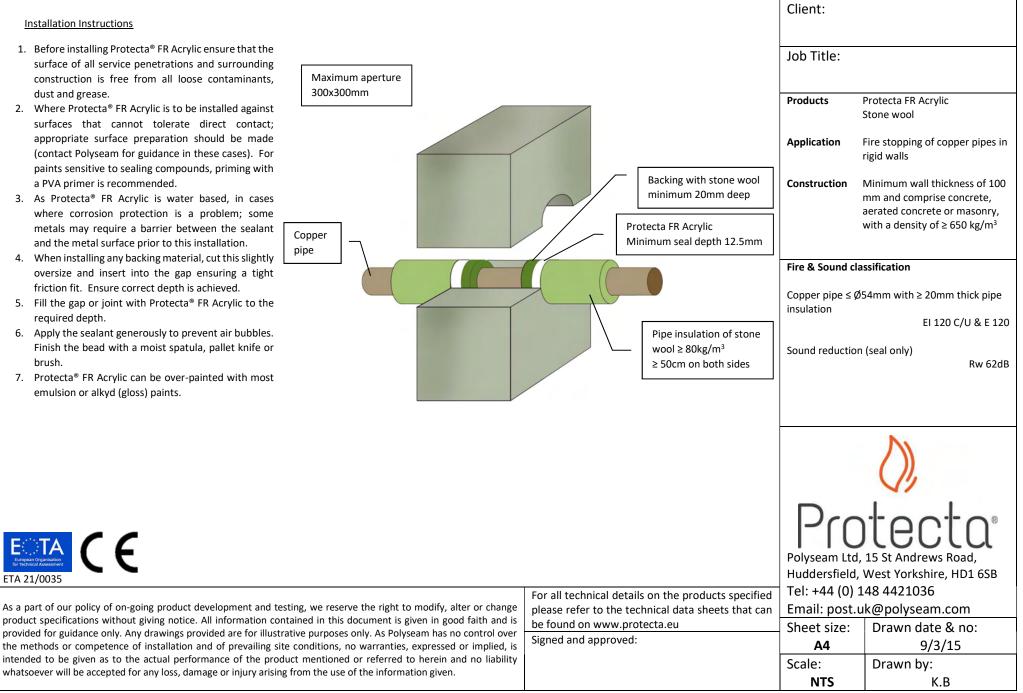
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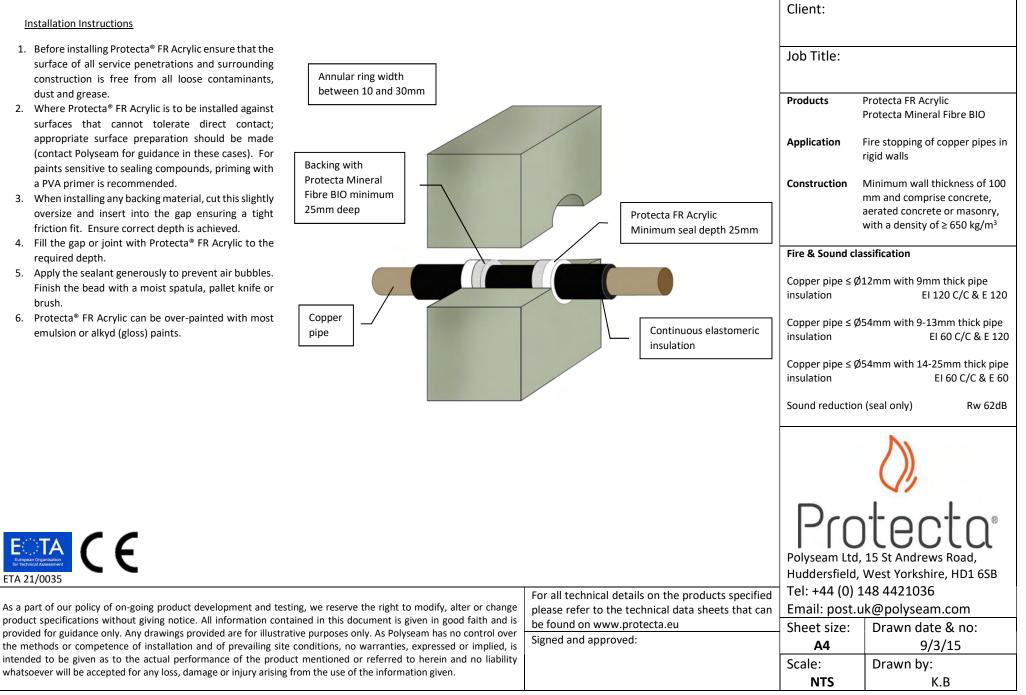
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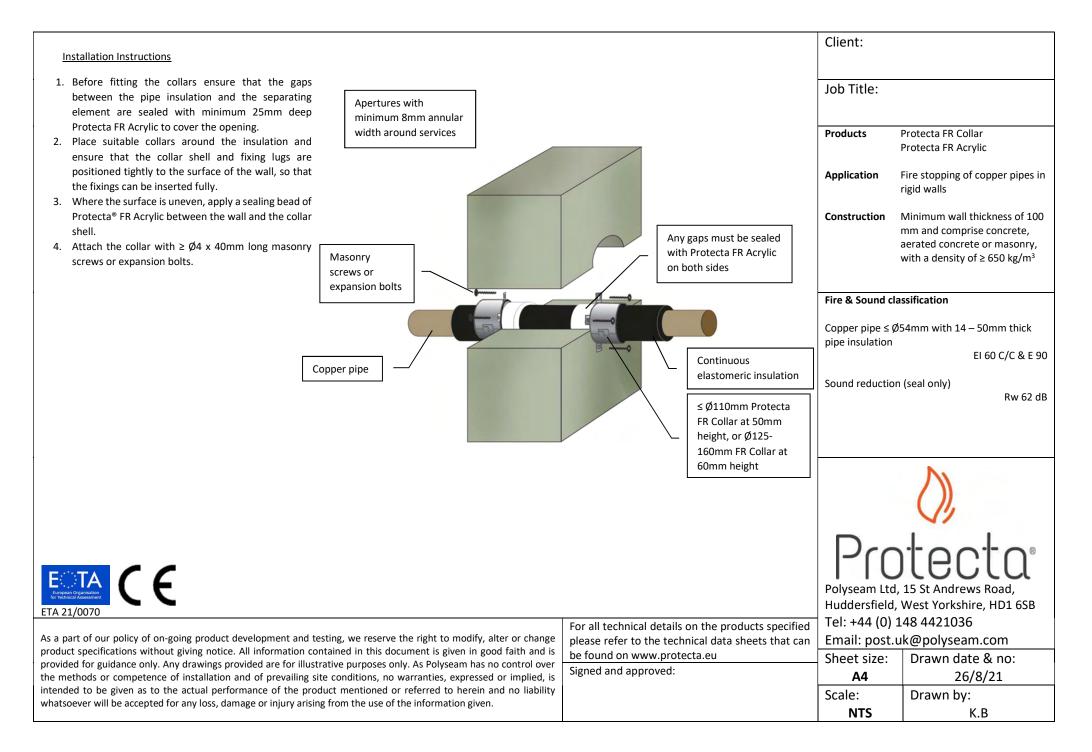
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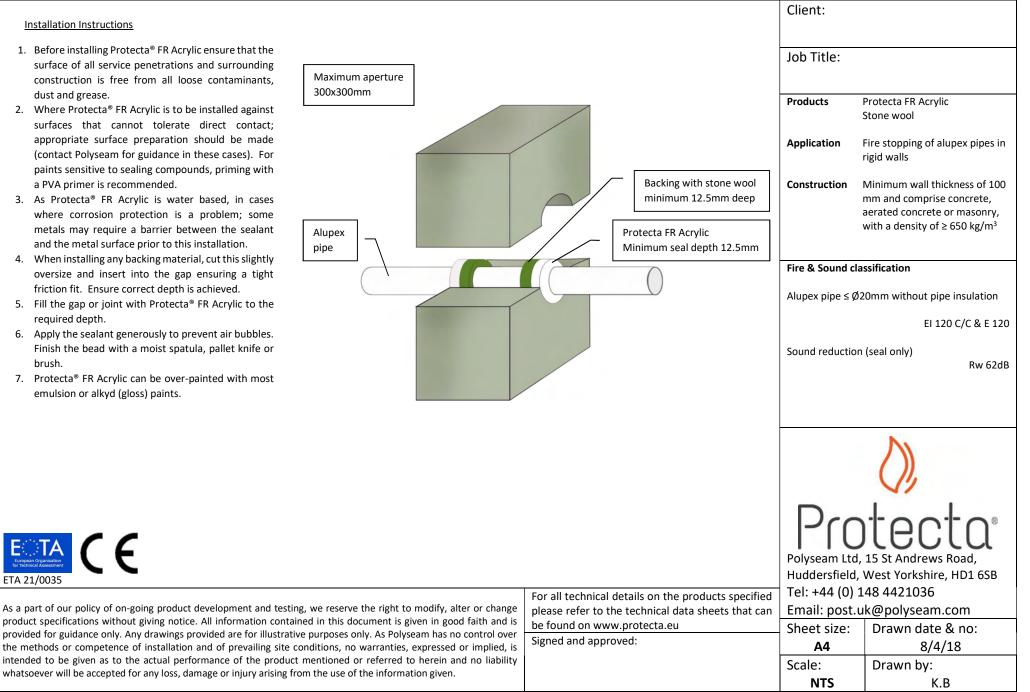
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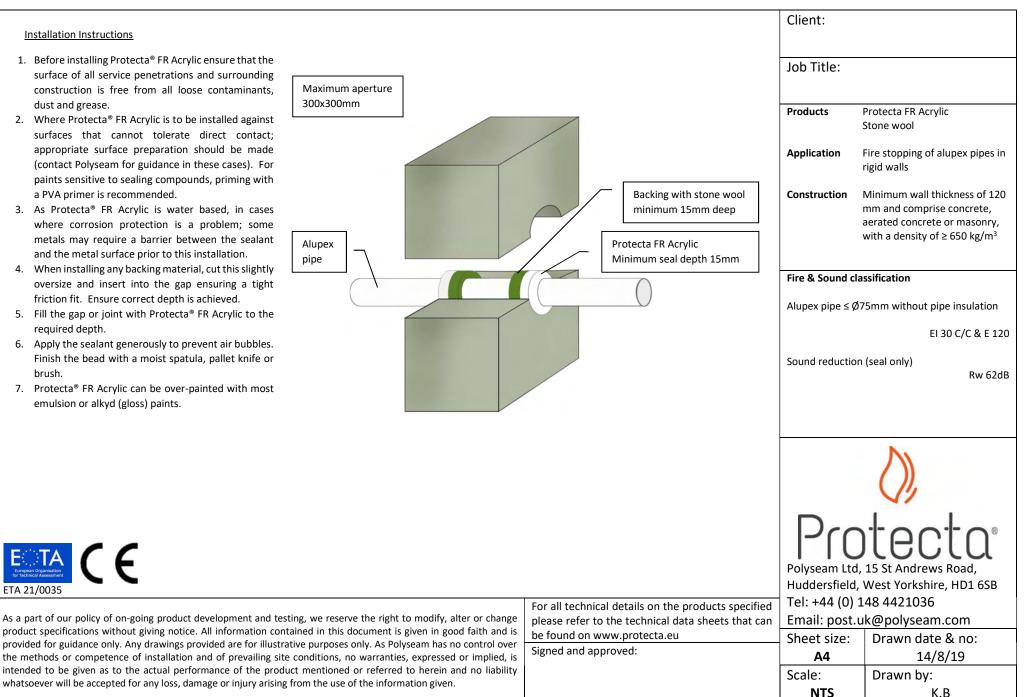
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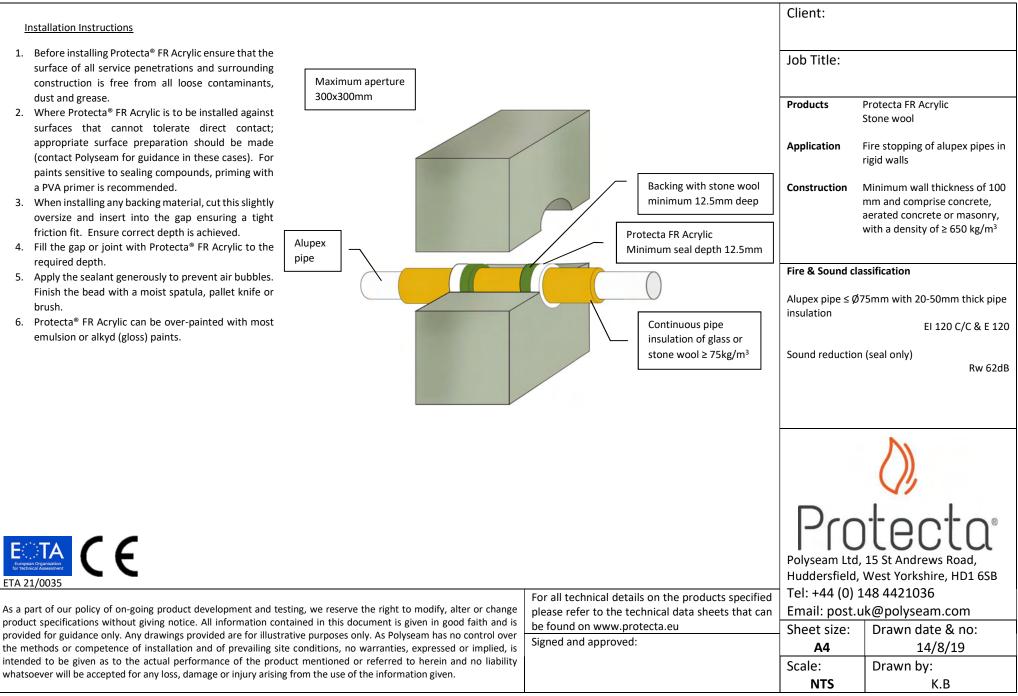
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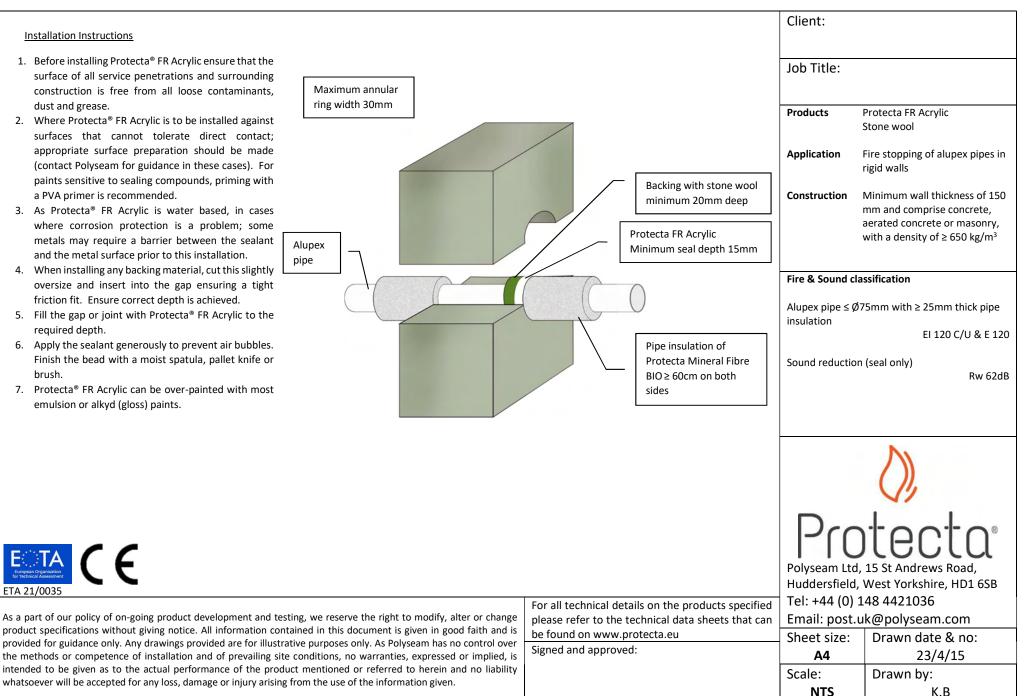
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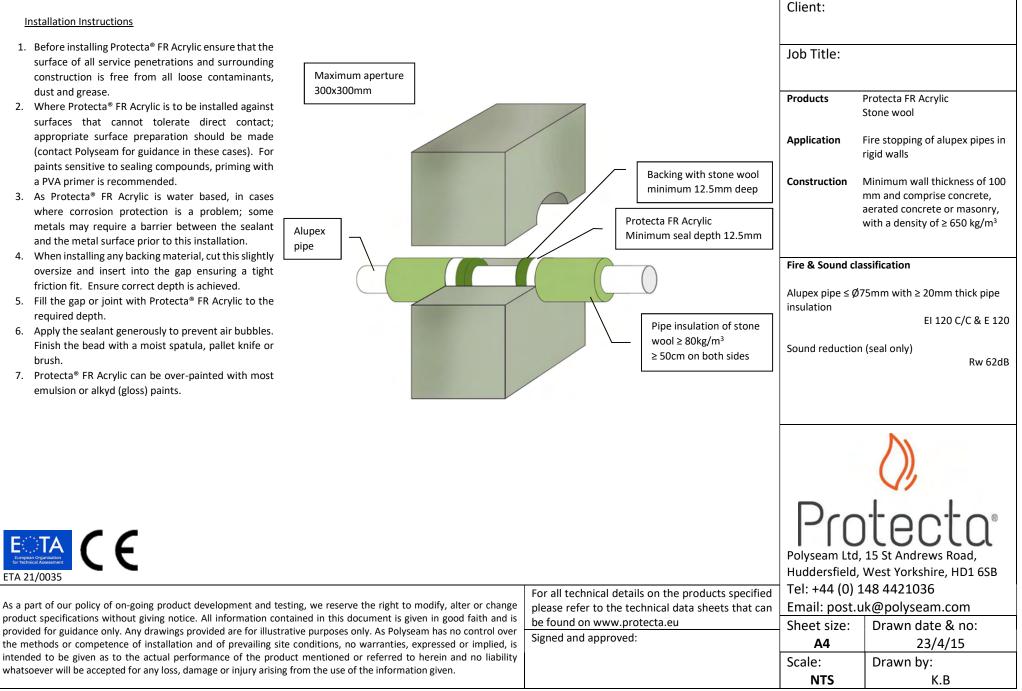
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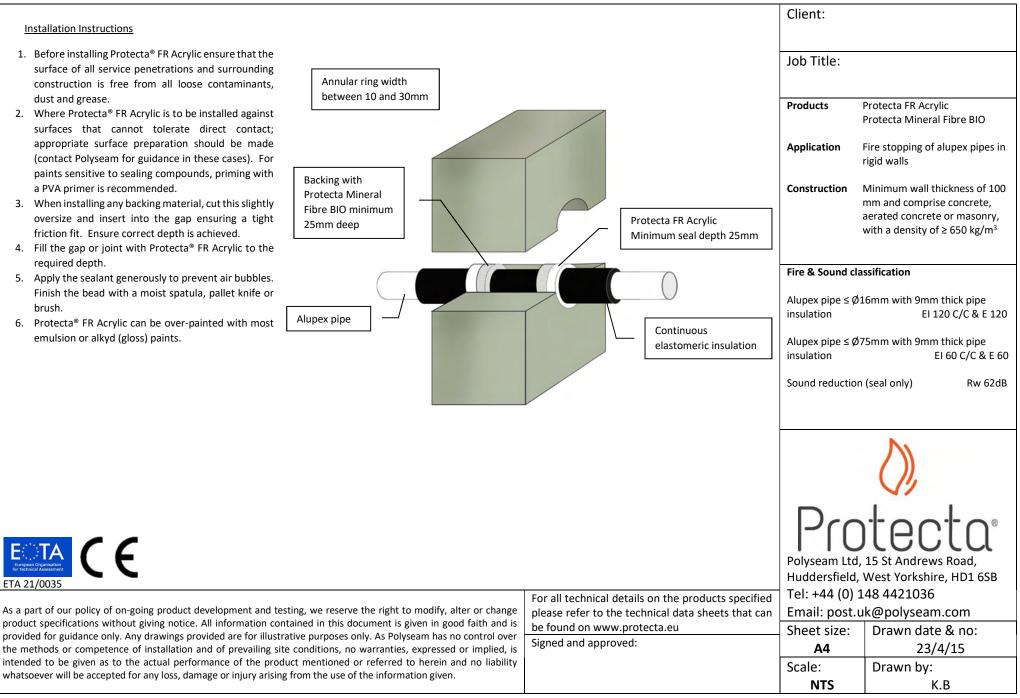
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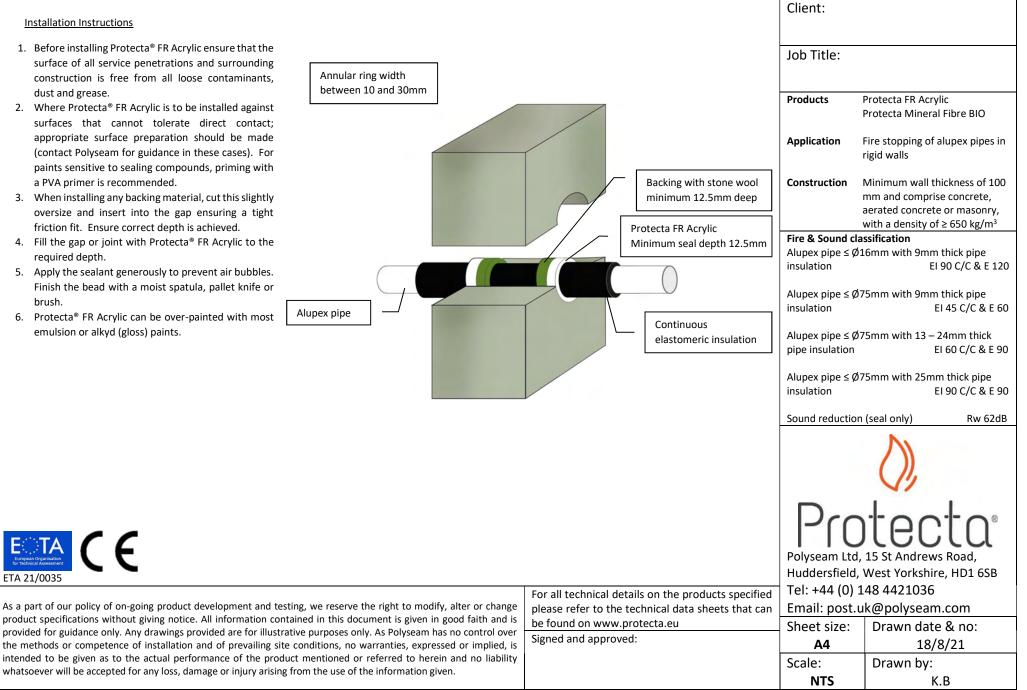
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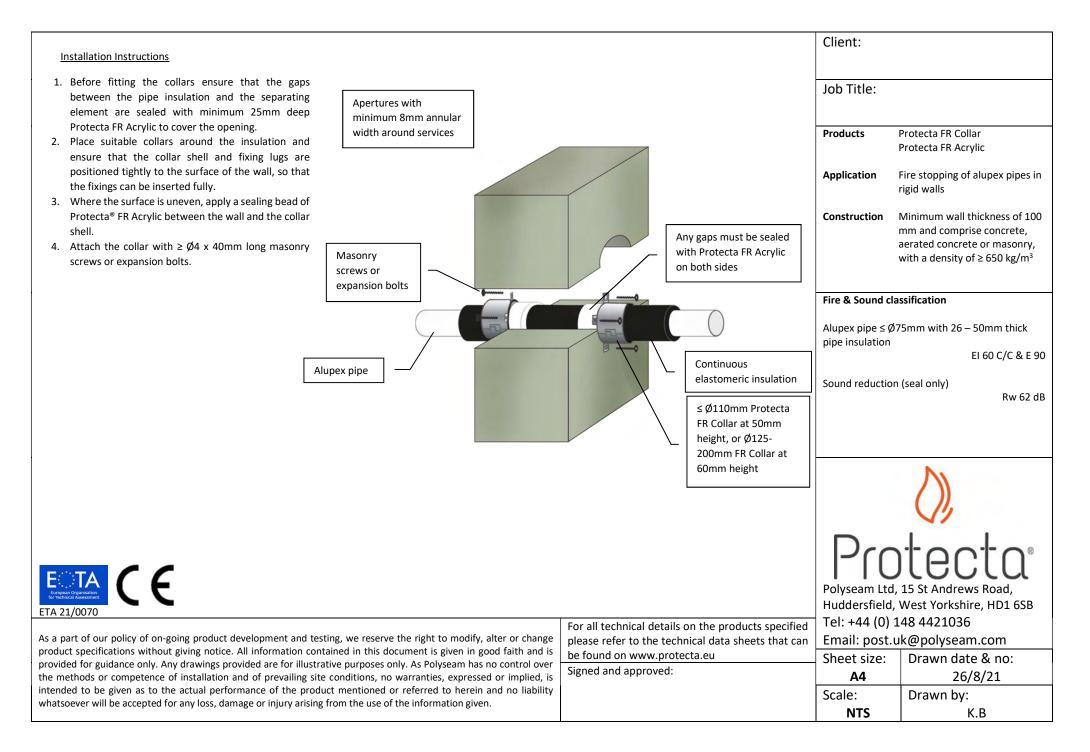
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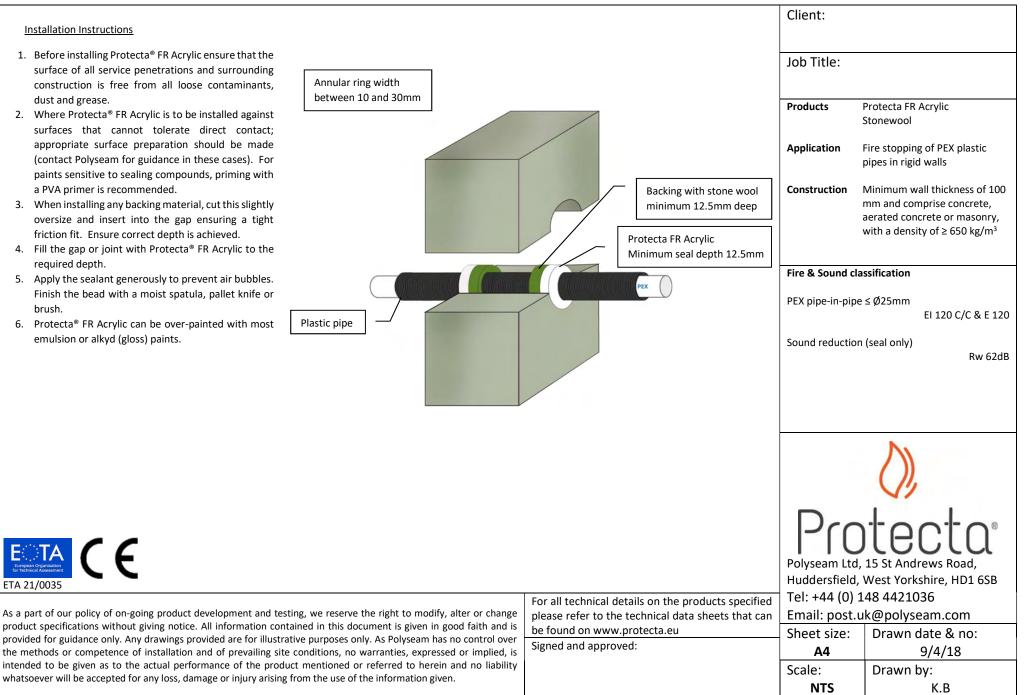
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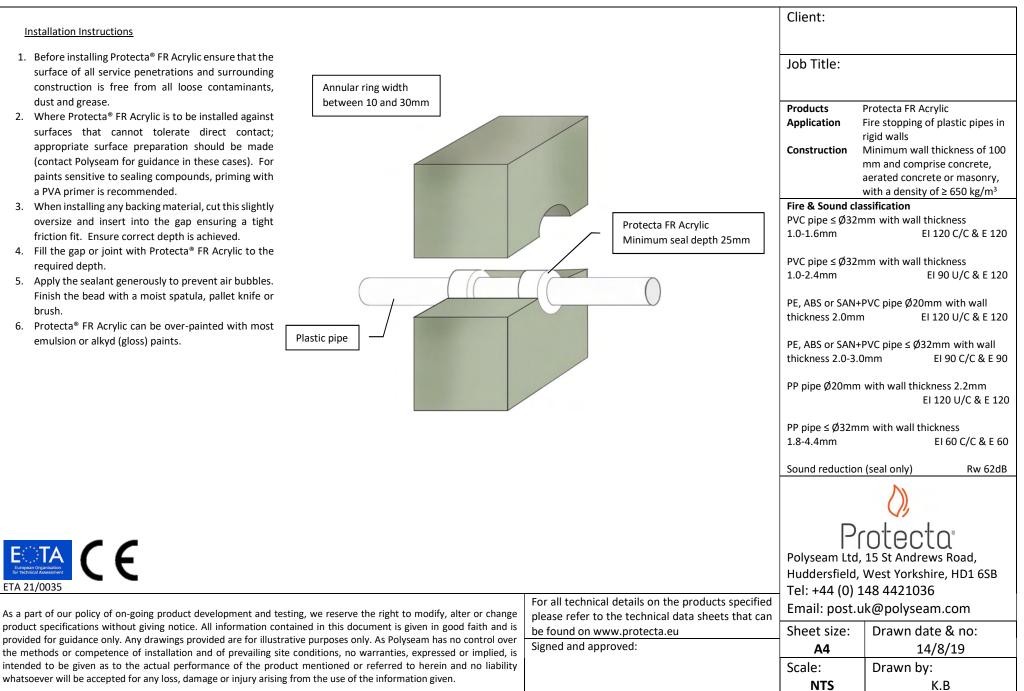
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Installation Instructions		Client:	
 Before fitting the collars ensure that the gaps between the pipes and the separating element are sealed with minimum 25mm deep Protecta FR Apertures with minimum 8mm annular 		Job Title:	
 Acrylic to cover the opening. Place suitable collars around the pipes and ensure that the collar shell and fixing lugs are positioned 			Protecta FR Collar Protecta FR Acrylic
tightly to the surface of the wall, so that the fixingscan be inserted fully.3. Where the surface is uneven, apply a sealing bead of			Fire stopping of PEX plastic pipes in rigid walls
Protecta® FR Acrylic between the wall and the collar shell. 4. Attach the collar with ≥ Ø4 x 40mm long masonry screws or expansion bolts. Masonry	Any gaps must be sealed with Protecta FR Acrylic on both sides		Minimum wall thickness of 100 mm and comprise concrete, aerated concrete or masonry, with a density of ≥ 650 kg/m ³
Plastic pipes	≤ Ø55mm FR Collar at ≥ 30mm height	Fire & Sound cla PEX pipe-in-pipe bundle ≤ Ø55mr Sound reductior	ts ≤ Ø25mm, single, or in a n EI 90 C/C & E 120
			$\langle \rangle \rangle$
		Polyseam Ltd,	15 St Andrews Road, West Yorkshire, HD1 6SB
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	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:	Tel: +44 (0) 148 4421036 Email: post.uk@polyseam.com	
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		Sheet size: A4	Drawn date & no: 26/8/21
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.		Scale: NTS	Drawn by: K.B

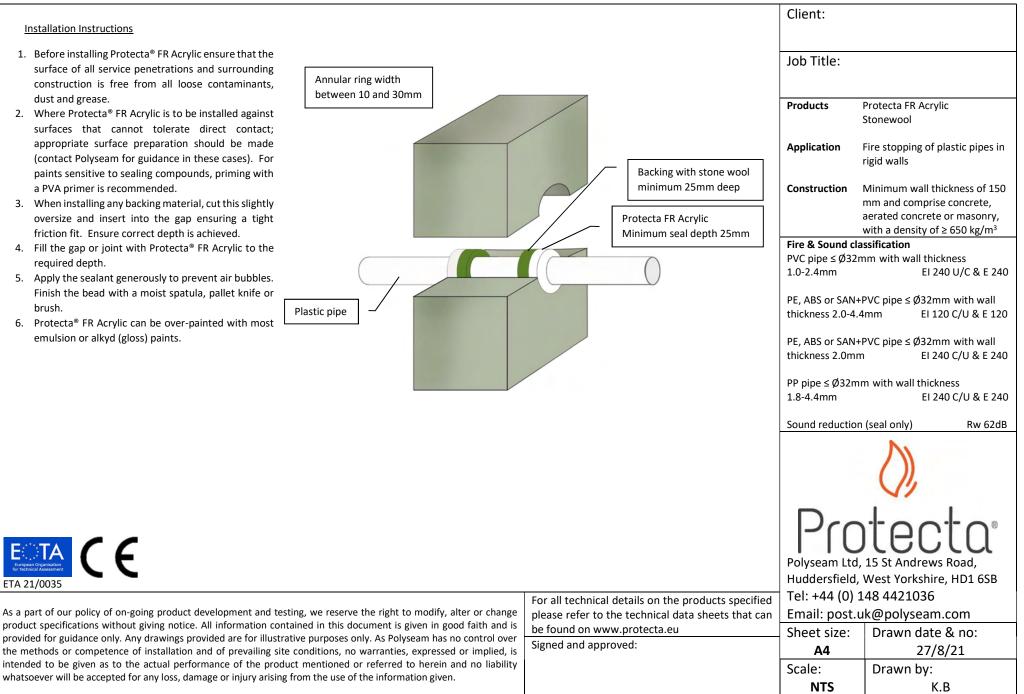
ECTA C C

- 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.



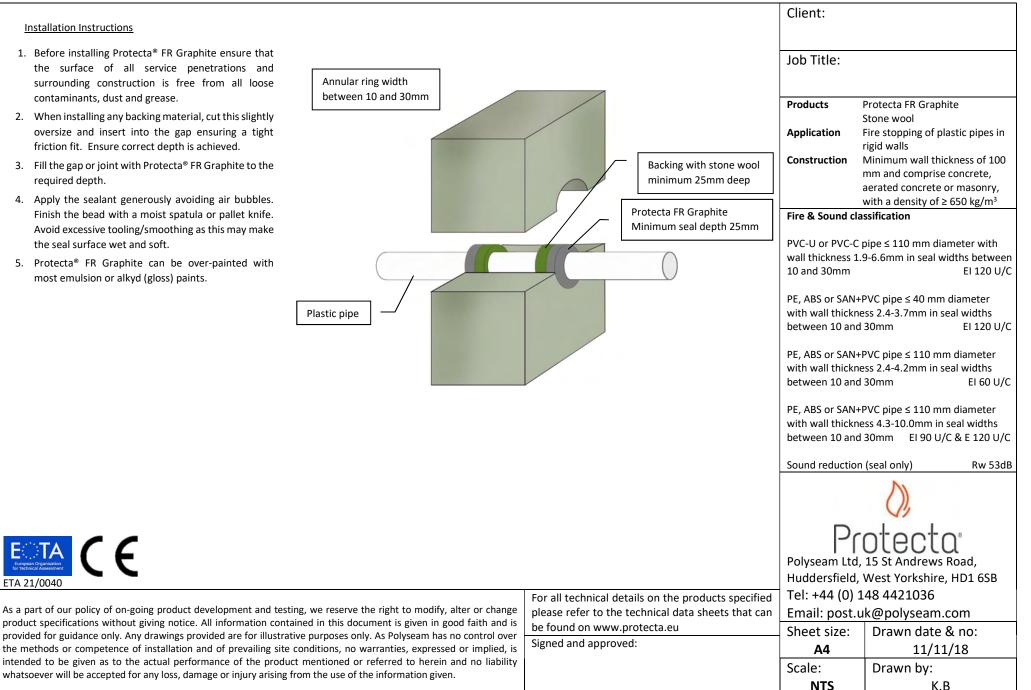
European Organisation for Technical Assessment

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- 4. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth.
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- 6. Protecta[®] FR Acrylic can be over-painted with most emulsion or alkyd (gloss) paints.



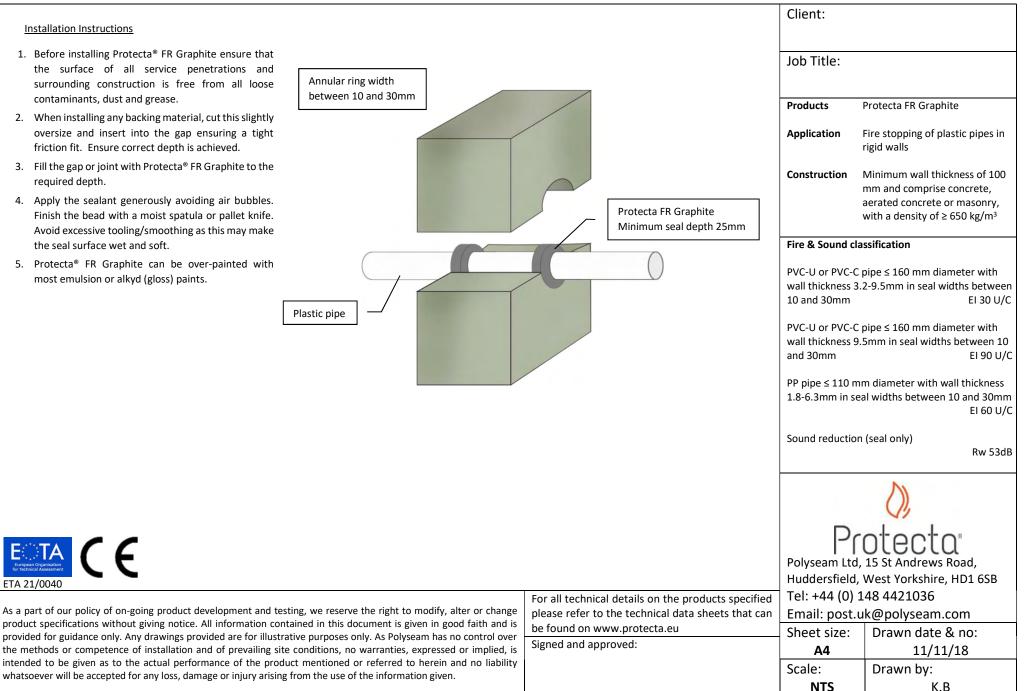
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- 1. Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. When installing any backing material, cut this slightly oversize 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.



ECTA C C

- 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.



Client: Installation Instructions 1. Before installing Protecta® FR Graphite ensure that Job Title: the surface of all service penetrations and Annular ring width surrounding construction is free from all loose between 10 and 30mm contaminants, dust and grease. Products Protecta FR Graphite 2. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight Application Fire stopping of plastic pipes in **Backing with Protecta** friction fit. Ensure correct depth is achieved. rigid walls Mineral Fibre BIO 3. Fill the gap or joint with Protecta[®] FR Graphite to the Construction Minimum wall thickness of 150 minimum 25mm deep required depth. mm and comprise concrete. 4. Apply the sealant generously avoiding air bubbles. aerated concrete or masonry, Protecta FR Graphite Finish the bead with a moist spatula or pallet knife. with a density of \geq 650 kg/m³ Minimum seal depth 35mm Avoid excessive tooling/smoothing as this may make the seal surface wet and soft. 5. Protecta® FR Graphite can be over-painted with Fire & Sound classification most emulsion or alkyd (gloss) paints. PVC pipe ≤ 160 mm diameter with wall thickness Plastic pipe 4.0 – 9.5mm EI 90 U/C & E 90 PVC pipe \leq 160 mm diameter with wall thickness 9.5mm EI 180 U/C & E 240 Sound reduction (seal only) Rw 53dB Protecta Polyseam Ltd, 15 St Andrews Road, European Organisation for Technical Assessment Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 ETA 21/0040 Email: post.uk@polyseam.com For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Drawn date & no: Sheet size: please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu 11/11/18 Α4

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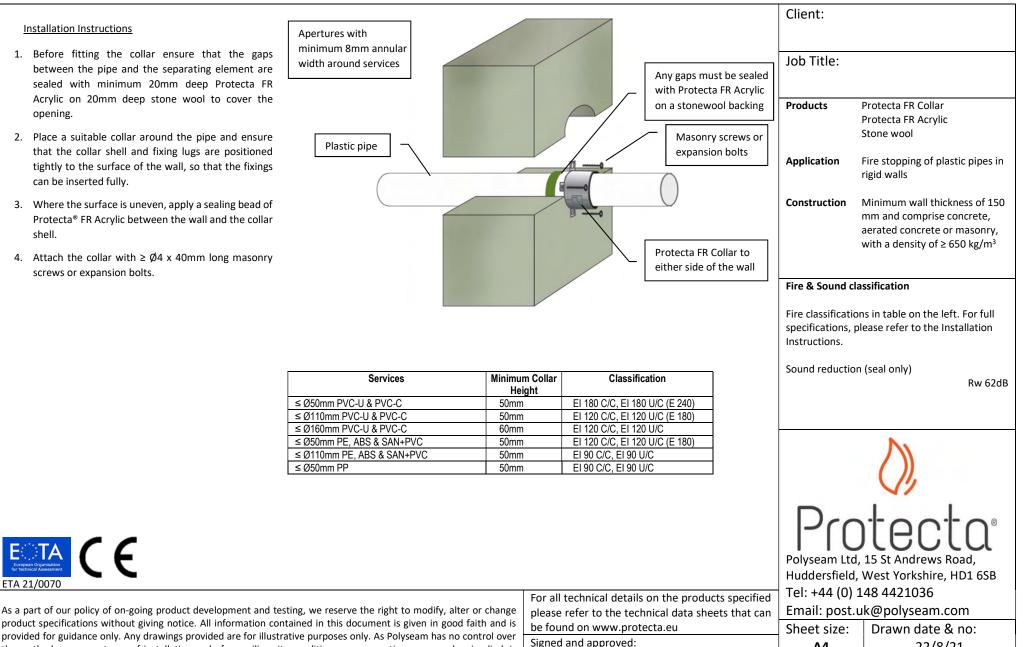
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- 1. Before fitting the collar ensure that the gaps between the pipe and the separating element are sealed with minimum 20mm deep Protecta FR Acrylic on 20mm deep stone wool to cover the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with $\ge 0.4 \times 40$ mm long masonry screws or expansion bolts.

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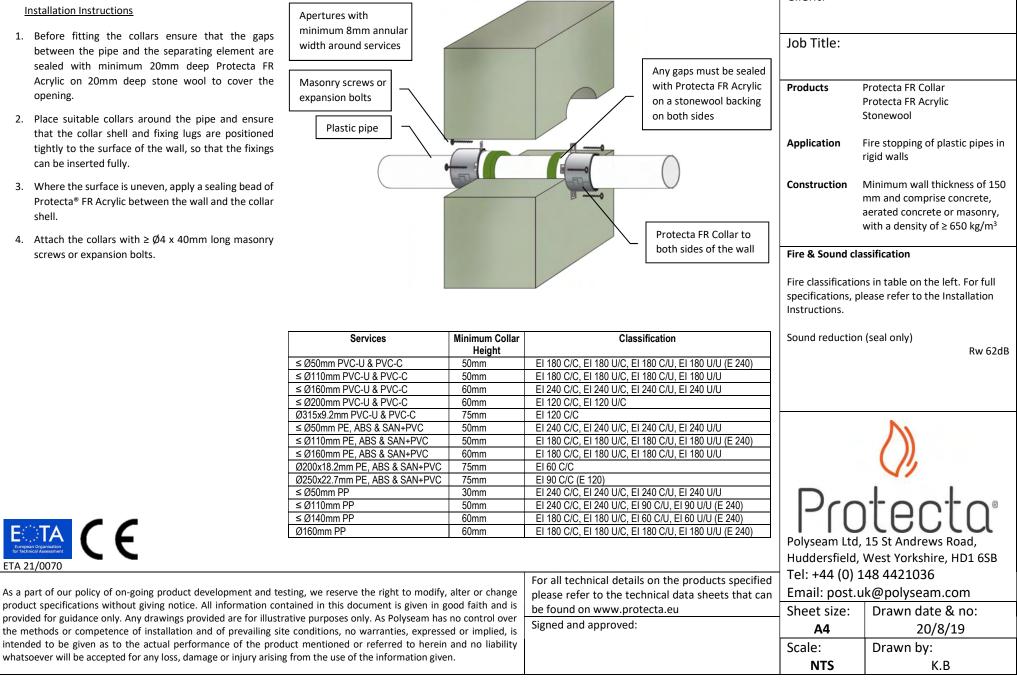
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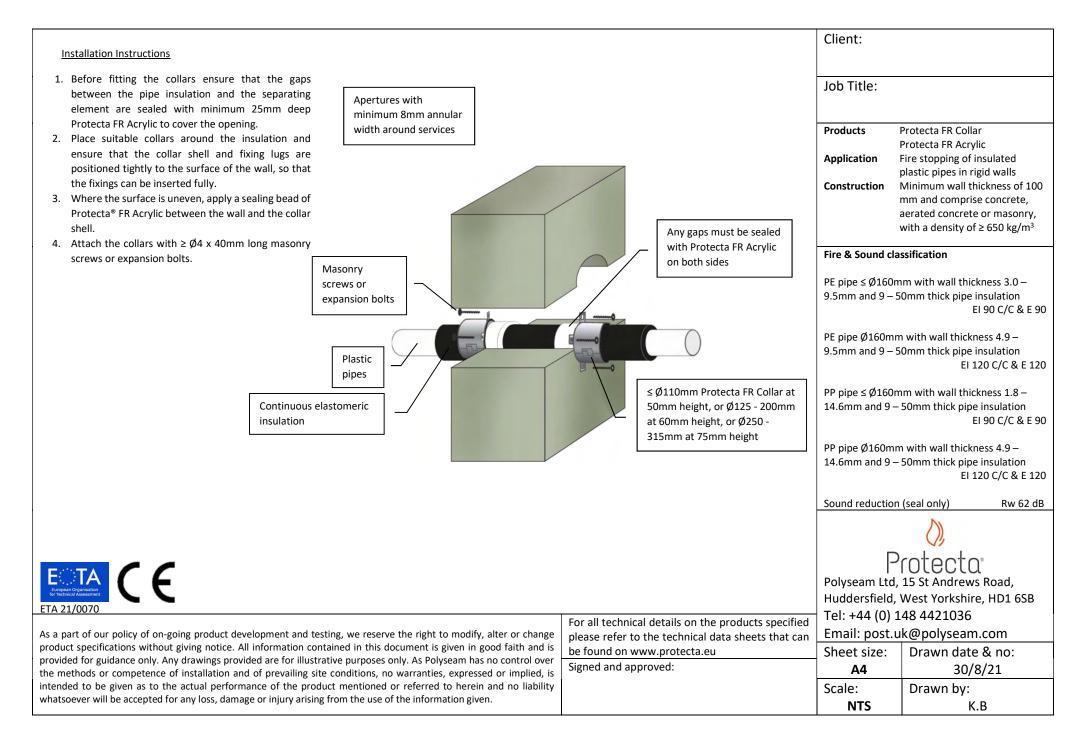
- 1. Before fitting the collars ensure that the gaps between the pipe and the separating element are sealed with minimum 25mm deep Protecta FR Acrylic to cover the opening.
- 2. Place suitable collars around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collars with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.

Client: Apertures with minimum 8mm annular width around services Job Title: Any gaps must be sealed with Protecta FR Acrylic Masonry screws or Products Protecta FR Collar on both sides expansion bolts Protecta FR Acrylic Plastic pipe Application Fire stopping of plastic pipes in rigid walls Minimum wall thickness of 100 Construction mm and comprise concrete. aerated concrete or masonry, with a density of $\geq 650 \text{ kg/m}^3$ Protecta FR Collar to both sides of the wall Fire & Sound classification Fire classifications in table on the left. For full specifications, please refer to the Installation Instructions. Classification Services Minimum Collar Height Sound reduction (seal only) ≤ Ø50mm PVC-U & PVC-C EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90) 30mm Rw 62dB ≤ Ø110mm PVC-U & PVC-C 30mm EI 60 C/C. EI 60 U/C ≤ Ø140mm PVC-U & PVC-C 50mm EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90) ≤ Ø160mm PVC-U & PVC-C EI 90 C/C, EI 90 U/C, EI 60 C/U, EI 60 U/U 60mm Ø315x9.2mm PVC-U & PVC-C EI 60 C/C 75mm EI 60 C/C, EI 60 U/C (E 90) ≤ Ø50mm PE, ABS & SAN+PVC 30mm ≤ Ø50mm PE, ABS & SAN+PVC 50mm EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120) ≤ 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 (E 90) ≤ Ø140mm PE, ABS & SAN+PVC 60mm EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90) EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U Ø160mm PE, ABS & SAN+PVC 60mm Protect Ø200x18.2mm PE, ABS & SAN+PVC 75mm EI 60 C/C Ø250x22.7mm PE, ABS & SAN+PVC FI 60 C/C 75mm ≤ Ø50mm PP 30mm EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90) ≤ Ø110mm PP 30mm EI 60 C/C. EI 60 U/C (E 90) ≤ Ø110mm PP EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 90) Polyseam Ltd, 15 St Andrews Road, 50mm ≤ Ø160mm PP 60mm EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 20/8/19 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

- 1. Before fitting the collars ensure that the gaps between the pipe and the separating element are sealed with minimum 20mm deep Protecta FR Acrylic on 20mm deep stone wool to cover the opening.
- 2. Place suitable collars around the pipe and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collars with $\ge \emptyset 4 \times 40$ mm long masonry screws or expansion bolts.



Client:



Client: Installation Instructions Apertures with minimum 8mm annular 1. Before fitting the collars ensure that the gaps Job Title: width around services between the pipe and the separating element are sealed with minimum 25mm deep Protecta FR Any gaps must be sealed Acrylic to cover the opening. with Protecta FR Acrylic Masonry screws or Products Protecta FR Collar on both sides expansion bolts Protecta FR Acrylic 2. Place suitable collars around the pipe and ensure that the collar shell and fixing lugs are positioned Application Fire stopping of composite Composite tightly to the surface of the wall, so that the fixings plastic pipes in rigid walls plastic pipe can be inserted fully. Minimum wall thickness of 100 3. Where the surface is uneven, apply a sealing bead of Construction mm and comprise concrete. Protecta[®] FR Acrylic between the wall and the collar aerated concrete or masonry, shell. with a density of $\geq 650 \text{ kg/m}^3$ 4. Attach the collars with $\ge \emptyset 4 \times 40$ mm long masonry Protecta FR Collar to screws or expansion bolts. both sides of the wall Fire & Sound classification Fire classifications in table on the left. For full specifications, please refer to the Installation Services Minimum Collar Classification Instructions. Height FI 120 C/C ≤ Ø32mm Aquatherm Green SDR9 30mm Sound reduction (seal only) EI 120 C/C ≤ Ø50mm Aquatherm Green SDR9 50mm ≤ Ø110mm Aquatherm Green SDR9 EI 60 C/C (E 120) 50mm EI 90 C/C, EI 90 U/C, EI 90 C/U, EI 90 U/U (E 120) ≤ Ø50mm BluePower 50mm ≤ Ø110mm BluePower 50mm EI 60 C/C, EI 60 U/C, EI 60 C/U (E 120) Ø125mm BluePower 60mm EI 60 C/C, EI 60 U/C, EI 60 C/U Ø160mm BluePower 60mm EI 90 C/C, EI 90 U/C, EI 90 C/U ≤ Ø50mm Geberit Silent-PP EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U 50mm ≤ Ø110mm Geberit Silent-PP EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120) 50mm EI 120 C/C. EI 120 U/C. EI 120 C/U. EI 120 U/U ≤ Ø50mm Polo-Kal NG pipes 50mm ≤ Ø110mm Polo-Kal NG pipes 50mm EI 90 C/C. EI 90 U/C. EI 90 C/U. EI 90 U/U (E 120) Ø125mm Polo-Kal NG pipes 60mm EI 120 C/C. EI 120 U/C (E 120 C/U. E 120 U/U) Ø160mm Polo-Kal NG pipes EI 120 C/C. EI 120 U/C. EI 120 C/U. EI 120 U/U 60mm Protect ≤ Ø50mm Rehau Raupiano Plus 50mm EI 90 C/C. EI 90 U/C. EI 90 C/U. EI 90 U/U (E 120) ≤ Ø110mm Rehau Raupiano Plus EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120) 50mm European Organisation for Technical Assessment ≤ Ø160mm Rehau Raupiano Plus 60mm EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U ≤ Ø110mm Uponor Decibel pipes 50mm EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120) Polyseam Ltd, 15 St Andrews Road, ≤ Ø50mm Wavin SiTech EI 120 C/C, EI 120 U/C, EI 120 C/U, EI 120 U/U 50mm Huddersfield, West Yorkshire, HD1 6SB EI 60 C/C, EI 60 U/C, EI 60 C/U, EI 60 U/U (E 120) ≤ Ø110mm Wavin SiTech 50mm ETA 21/0070 Tel: +44 (0) 148 4421036

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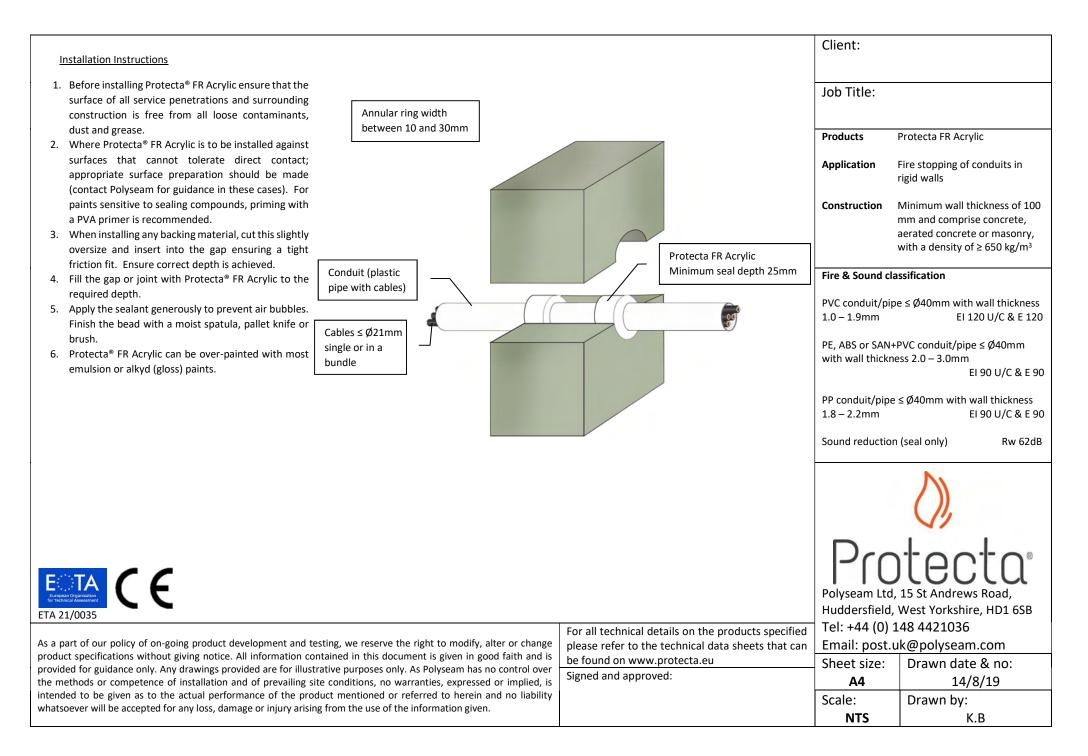
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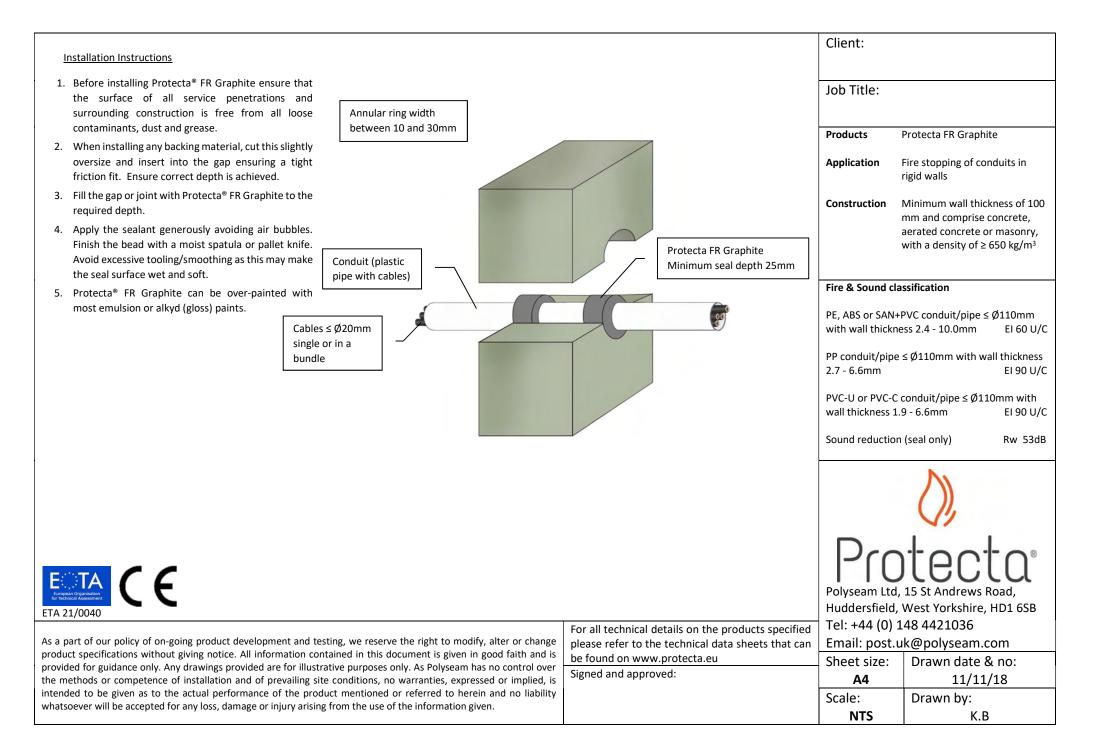
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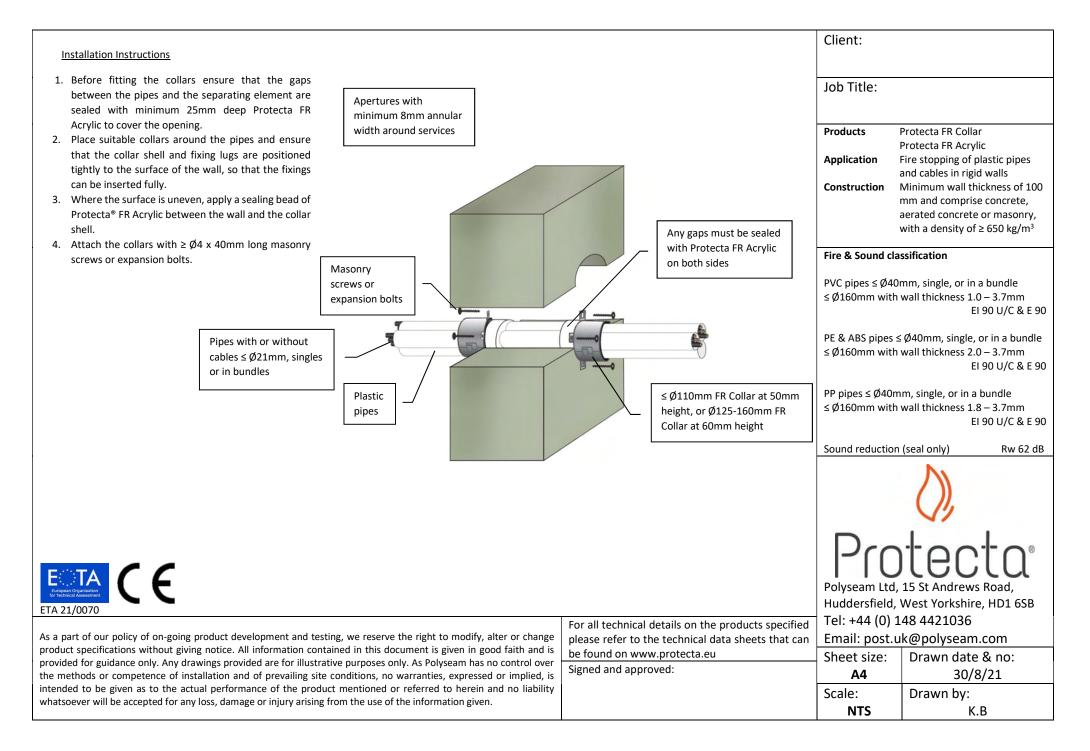
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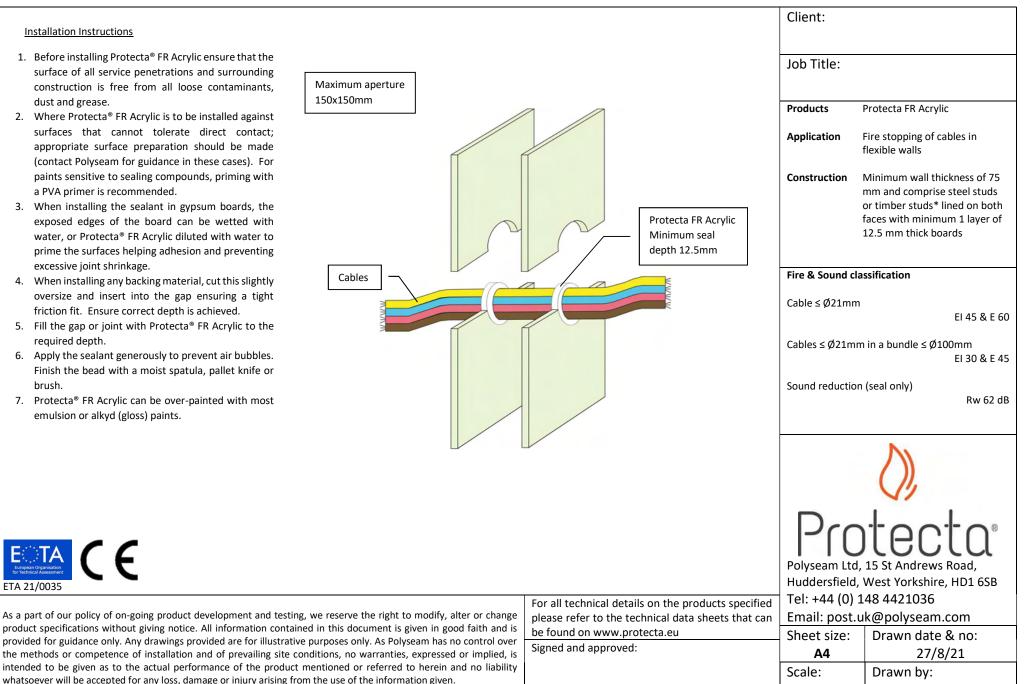






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- 3. When installing the sealant in gypsum boards, the exposed edges of the board can be wetted with water. or Protecta[®] FR Acrylic diluted with water to prime the surfaces helping adhesion and preventing excessive joint shrinkage.
- 4. When installing 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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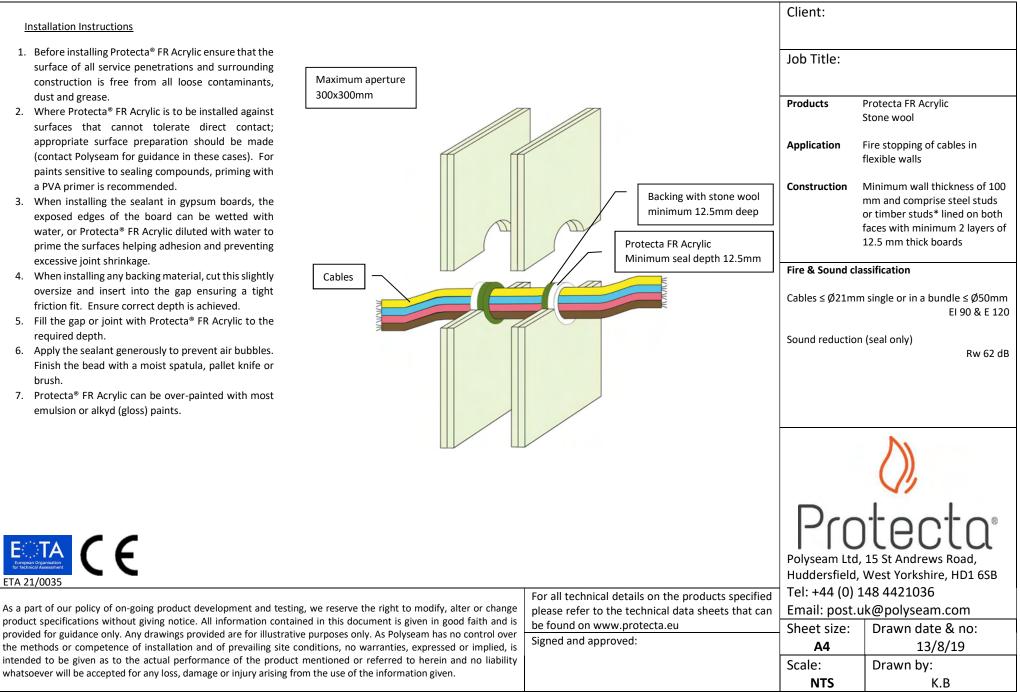


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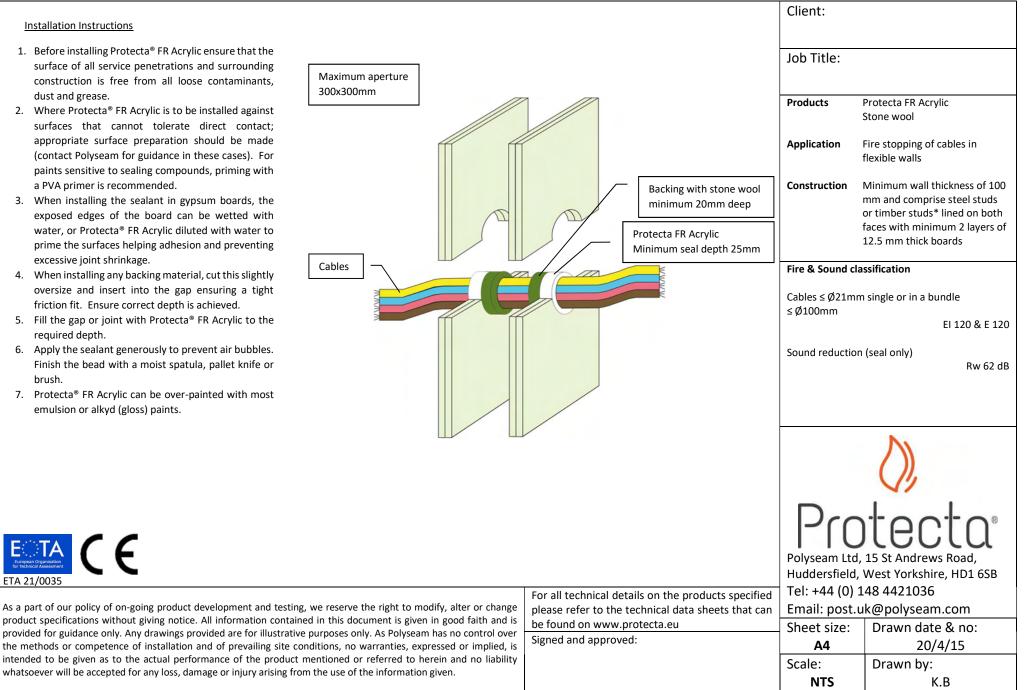
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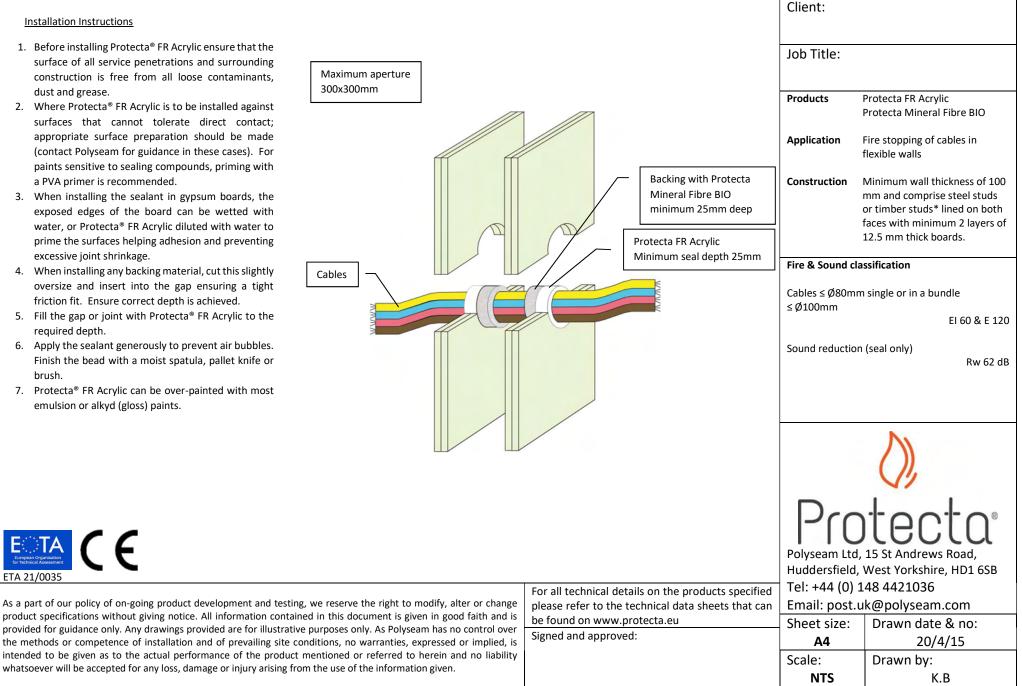
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Client: Installation Instructions 1. Before fitting the collars ensure that the gaps Job Title: between the cable bundle and the separating Apertures with element are sealed with minimum 25mm deep minimum 8mm annular Protecta FR Acrylic to cover the opening. width around services Products Protecta FR Collar 2. Place suitable collars around the cables and ensure Protecta FR Acrylic that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings Application Fire stopping of cables in can be inserted fully. flexible walls 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar Construction Minimum wall thickness of 100 mm and comprise steel studs shell. or timber studs* lined on both 4. Attach the collar with $\ge \emptyset$ 4mm drywall, wood screws Any gaps must be sealed faces with minimum 2 layers of or anchors with a length suitable for the number of with Protecta FR Acrylic 12.5 mm thick boards. boards that form the wall. Drywall, wood on both sides screws or Fire & Sound classification anchors of steel Cables $\leq \emptyset$ 80mm in a bundle $\leq \emptyset$ 160mm EI 60 & E 120 Sound reduction (seal only) Cables Rw 62 dB ≤ Ø160mm Protecta FR Collar at ≥ 60mm height to both sides Protecta EUTRA C C Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB ETA 21/0070 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Sheet size: Drawn date & no: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 22/8/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

- 1. Before installing Protecta® FR Acrylic ensu surface of all service penetrations and su construction is free from all loose cont dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be instal surfaces that cannot tolerate direct appropriate surface preparation should (contact Polyseam for guidance in these c paints sensitive to sealing compounds, pri a PVA primer is recommended.
- 3. As Protecta[®] FR Acrylic is water based where corrosion protection is a proble metals may require a barrier between the and the metal surface prior to this installa
- 4. When installing the sealant in gypsum be exposed edges of the board can be we water, or Protecta® FR Acrylic diluted wit prime the surfaces helping adhesion and excessive joint shrinkage.
- 5. When installing any backing material, cut t oversize and insert into the gap ensuri friction fit. Ensure correct depth is achiev
- 6. Fill the gap or joint with Protecta® FR Act required depth.
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- 8. Protecta® FR Acrylic can be over-painted emulsion or alkyd (gloss) paints.

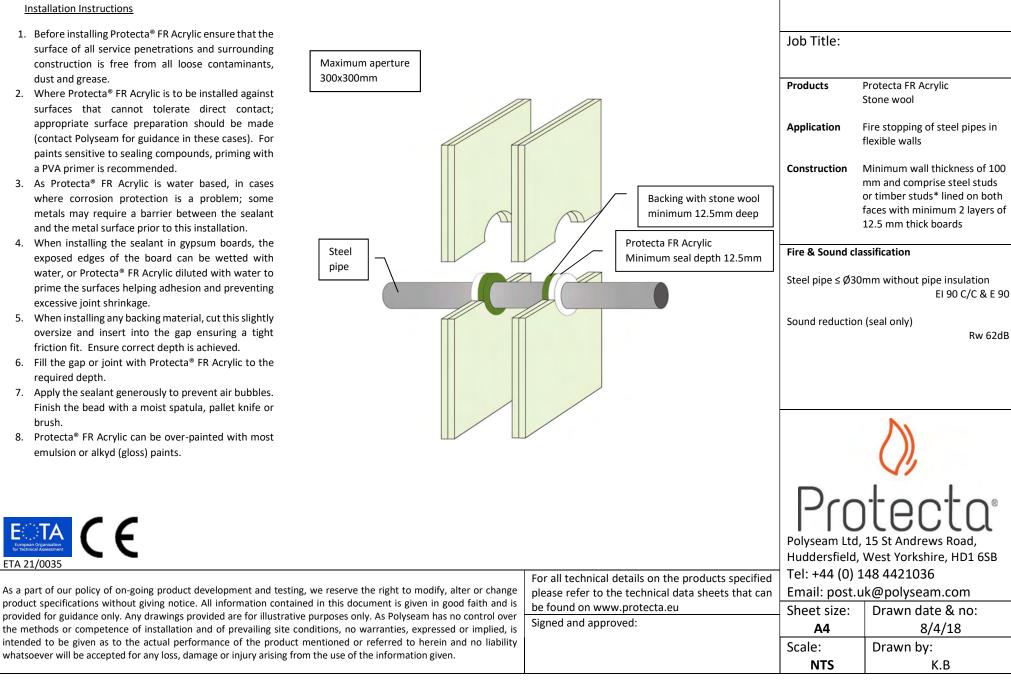
Installation Instructions	Client:	
 Before installing Protecta® FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease Maximum aperture 150x150mm 	Job Title:	
 dust and grease. Where Protecta® FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For 	Products Application	Protecta FR Acrylic Fire stopping of steel pipes in flexible walls
 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 	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
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	Fire & Sound cla	
prime the surfaces helping adhesion and preventing excessive joint shrinkage. 5. When installing any backing material, cut this slightly	Steel pipe ≤ Ø22 Sound reduction	mm without pipe insulation EI 30 C/U & E 60
 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. 	Sound reduction	Rw 62dB
 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. 		$\langle \rangle \rangle$
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ETA 21/0035 As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change readuct considerations without division particle. All information contained in this document is given in good foith and in	Tel: +44 (0) 1	West Yorkshire, HD1 6SB 148 4421036 uk@polyseam.com
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- 6. Fill the gap or joint with Protecta[®] FR Acrylic to the required depth.
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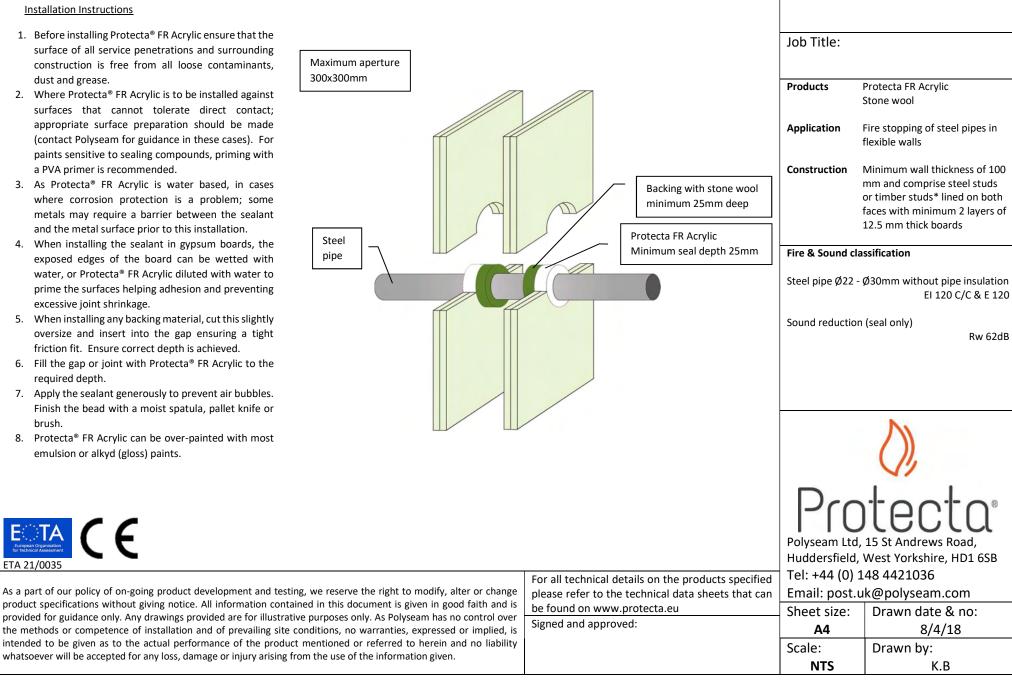
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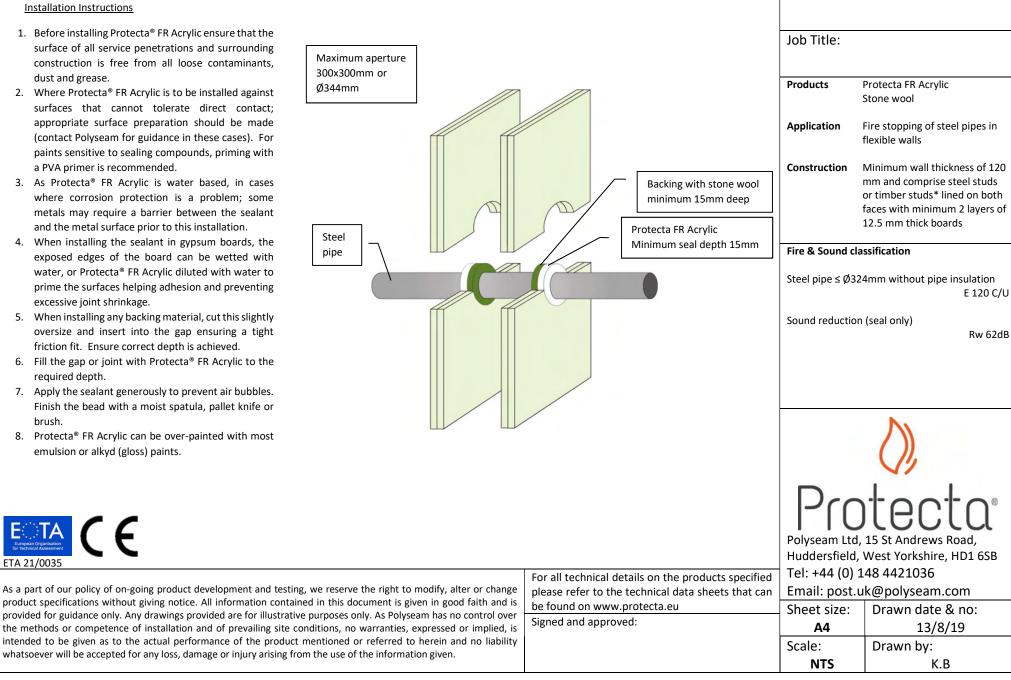
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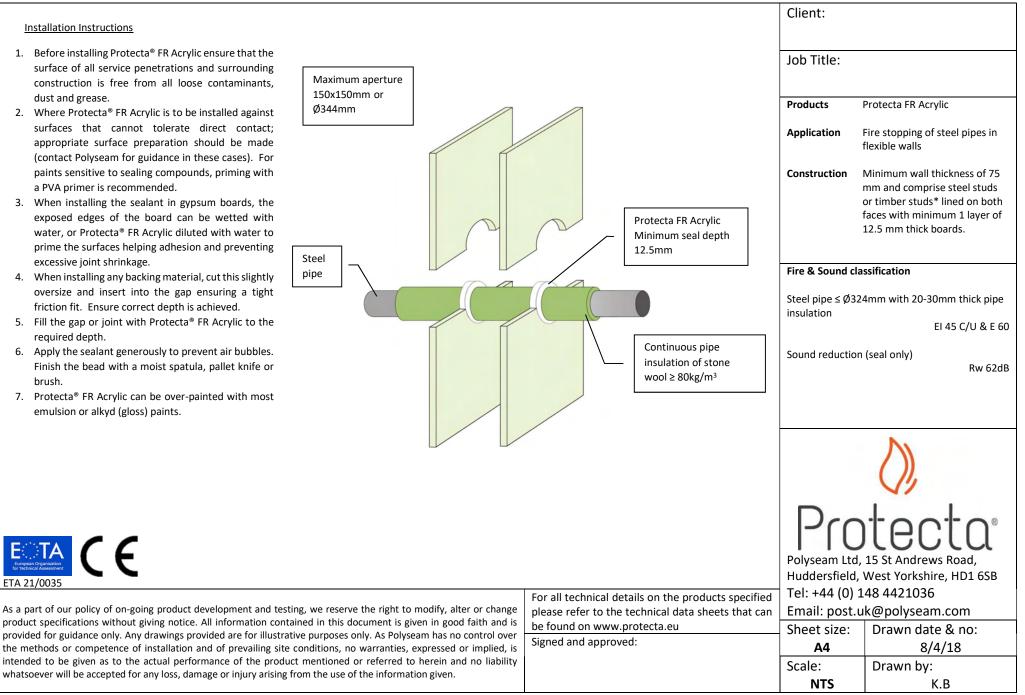
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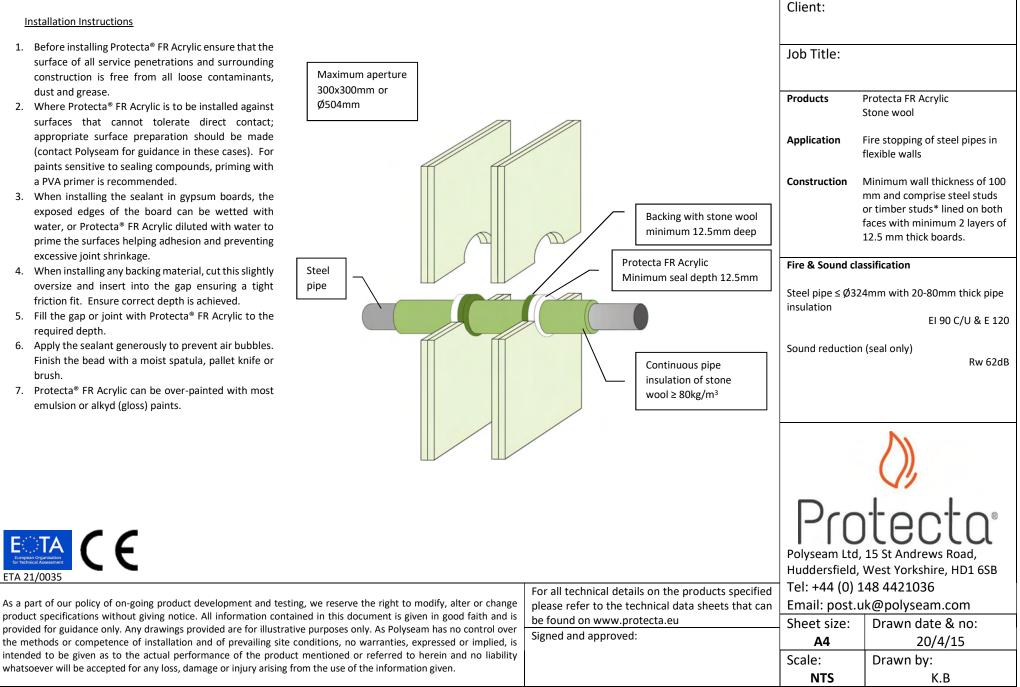
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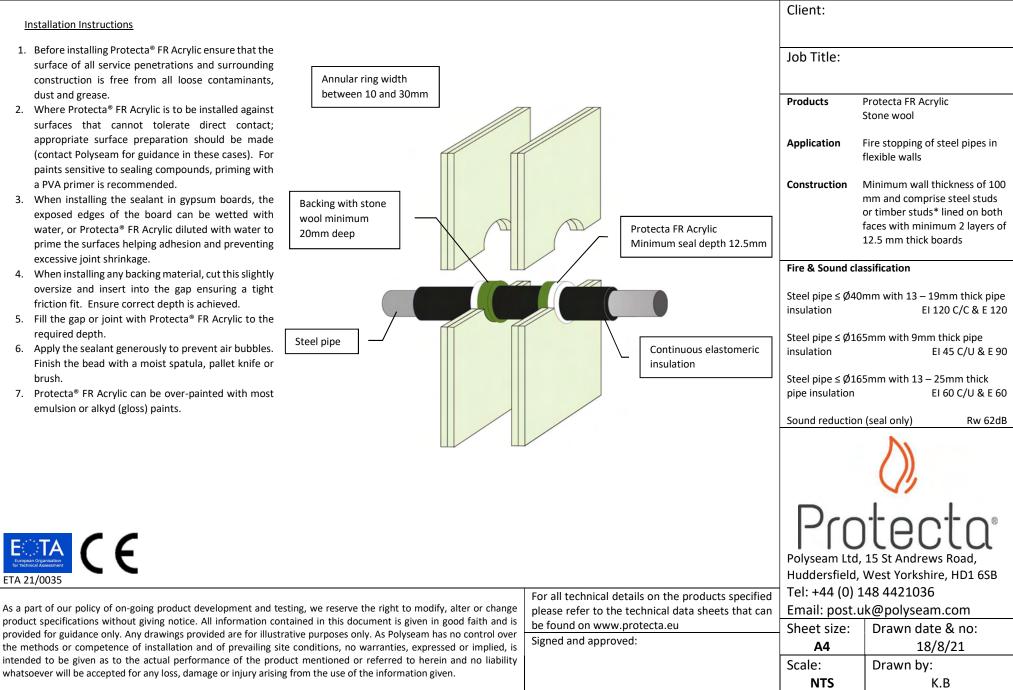
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Job Title: Maximum aperture 300x300mm Products Protecta FR Acrylic Stone wool Application Fire stopping of steel pipes in flexible walls Minimum wall thickness of 100 Construction Backing with stone wool mm and comprise steel studs minimum 20mm deep or timber studs* lined on both faces with minimum 2 layers of Protecta FR Acrvlic 12.5 mm thick boards Steel Minimum seal depth 12.5mm pipe Fire & Sound classification insulation EI 120 C/U & E 120 Pipe insulation of stone Steel pipe $\leq \emptyset$ 219mm with \geq 30mm thick pipe wool $\geq 80 \text{kg/m}^3$ insulation \geq 50cm on both sides EI 90 C/U & E 120 Sound reduction (seal only) Rw 62dB Protecta Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Sheet size: Drawn date & no: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: Α4 20/4/15 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

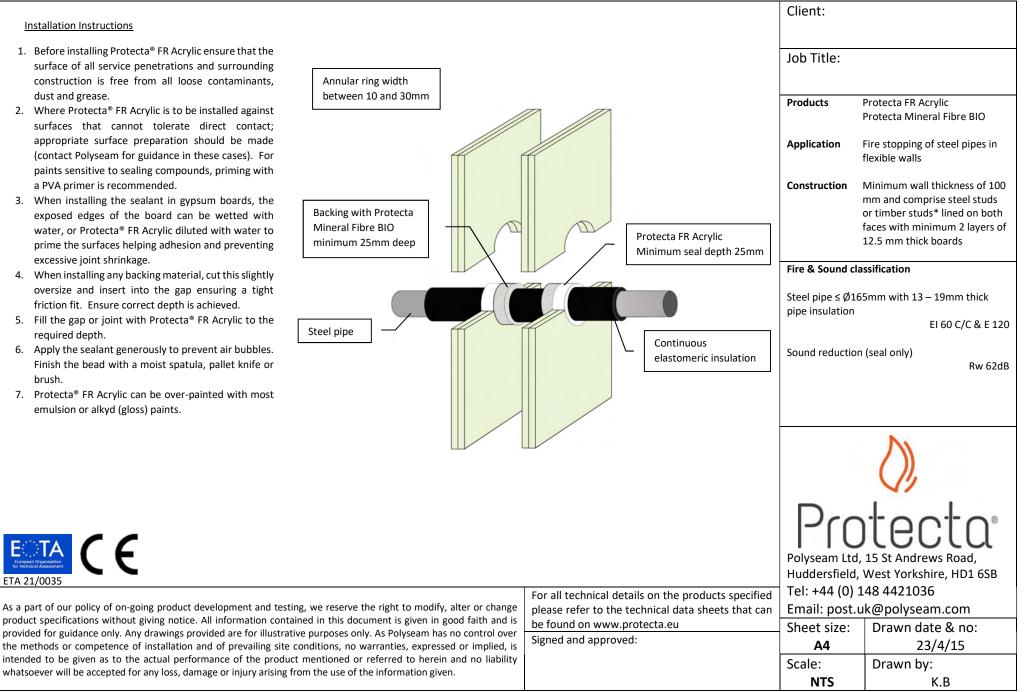
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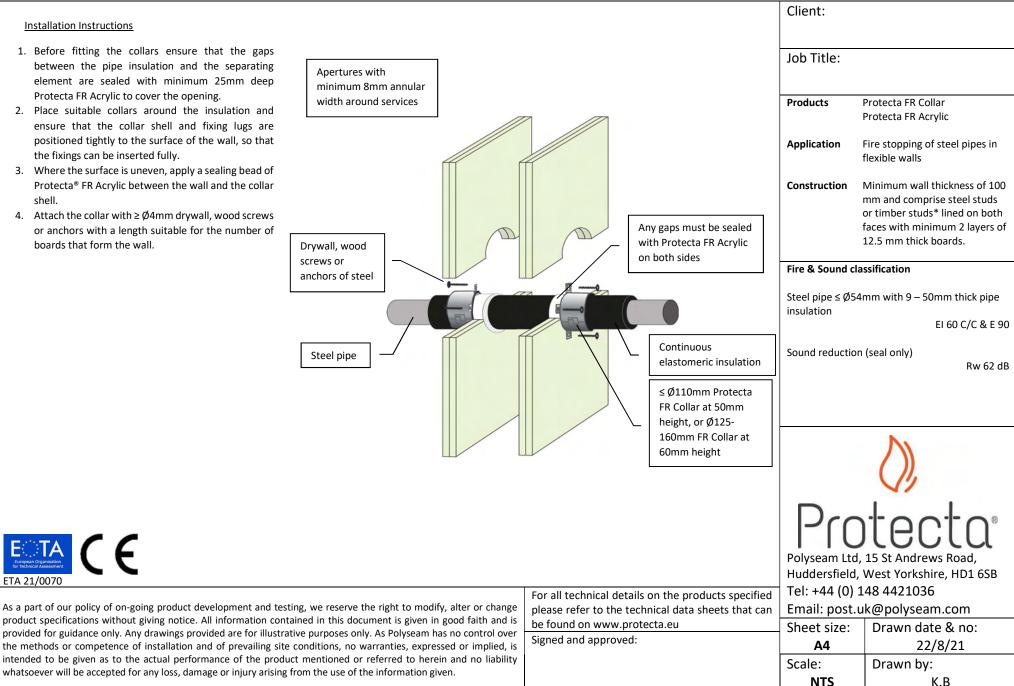
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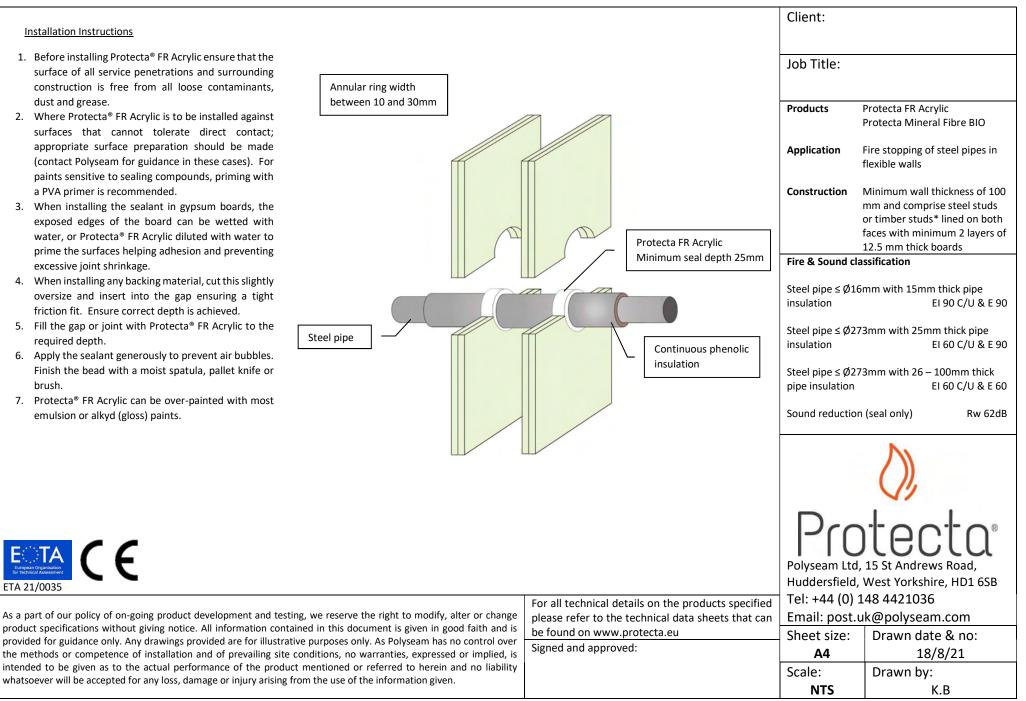
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- 1. Before fitting the collars ensure that the gaps between the pipe insulation and the separating element are sealed with minimum 25mm deep Protecta FR Acrylic to cover the opening.
- 2. Place suitable collars around the insulation and ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that the fixings can be inserted fully.
- 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar shell.
- 4. Attach the collar with ≥ 0.000 0.000 or anchors with a length suitable for the number of boards that form the wall.



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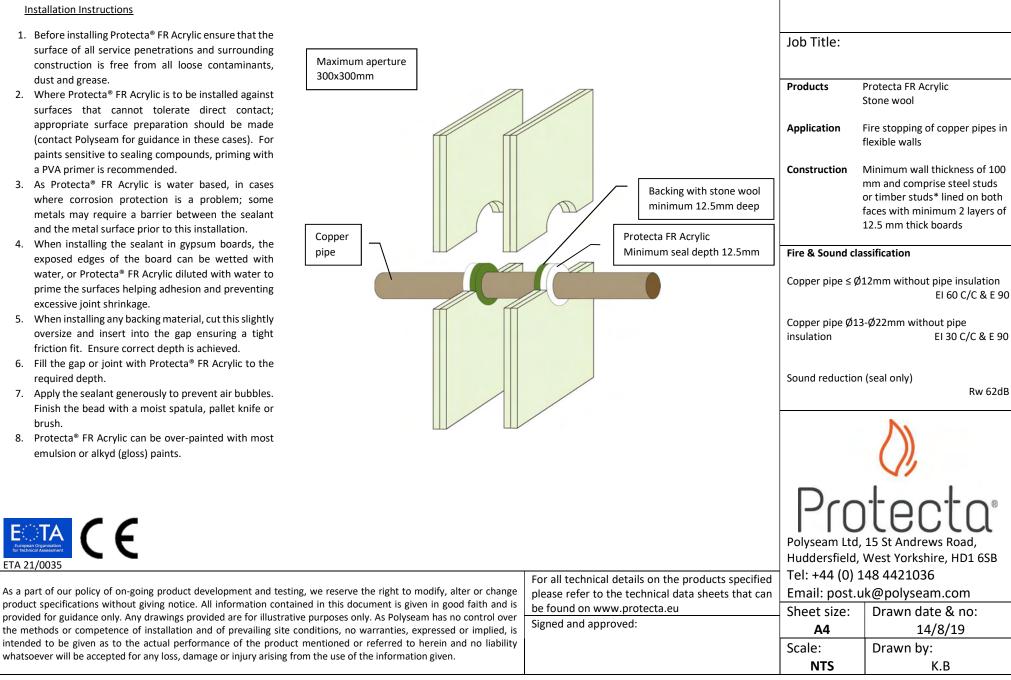
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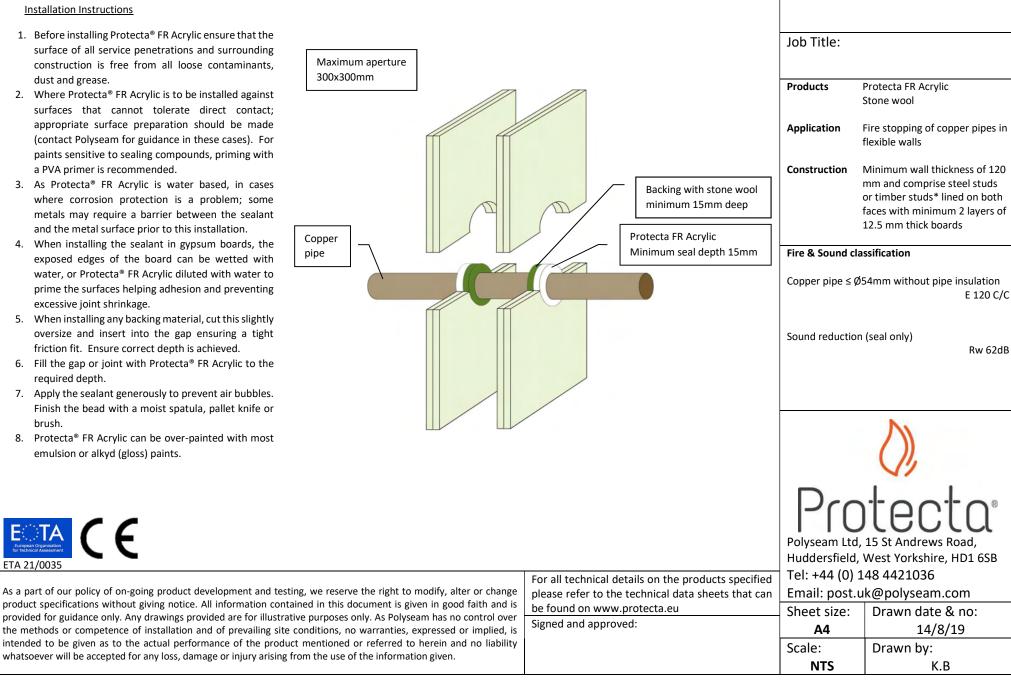
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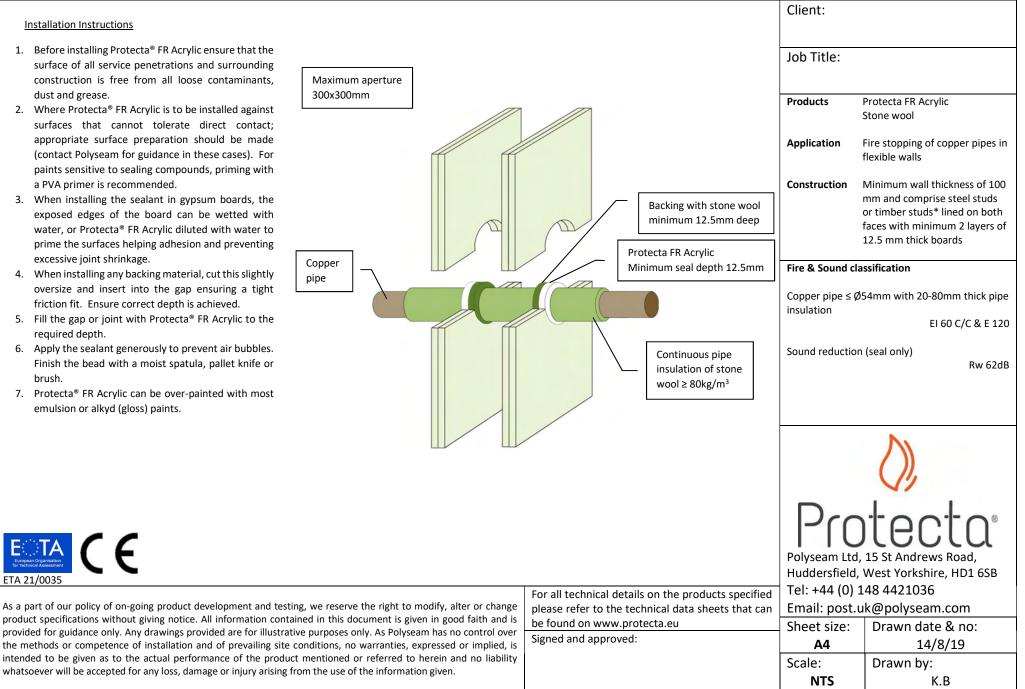
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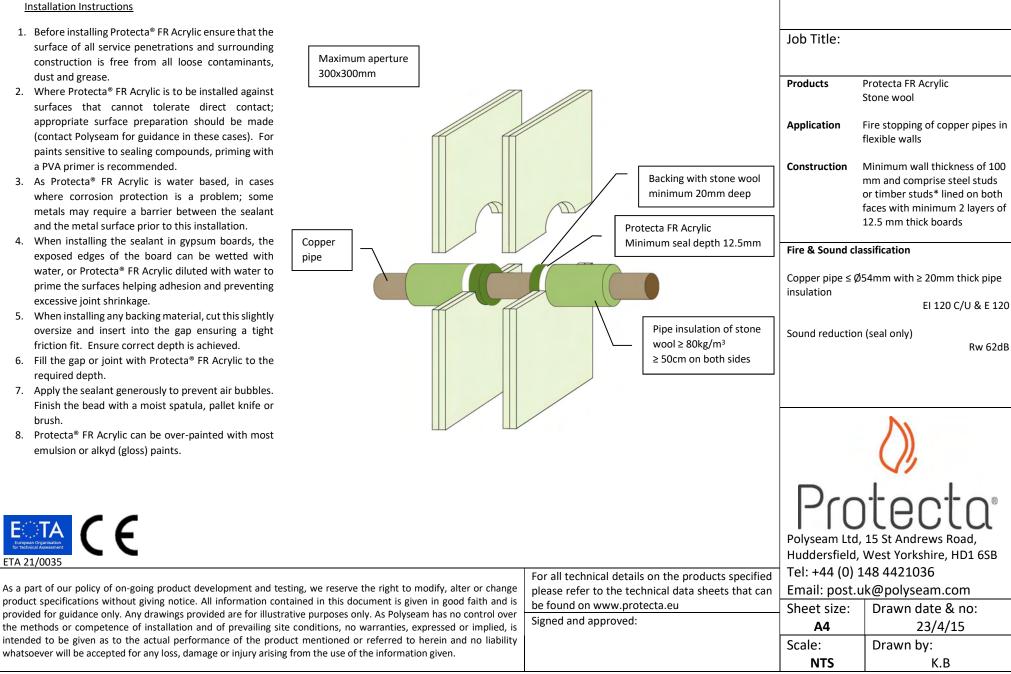
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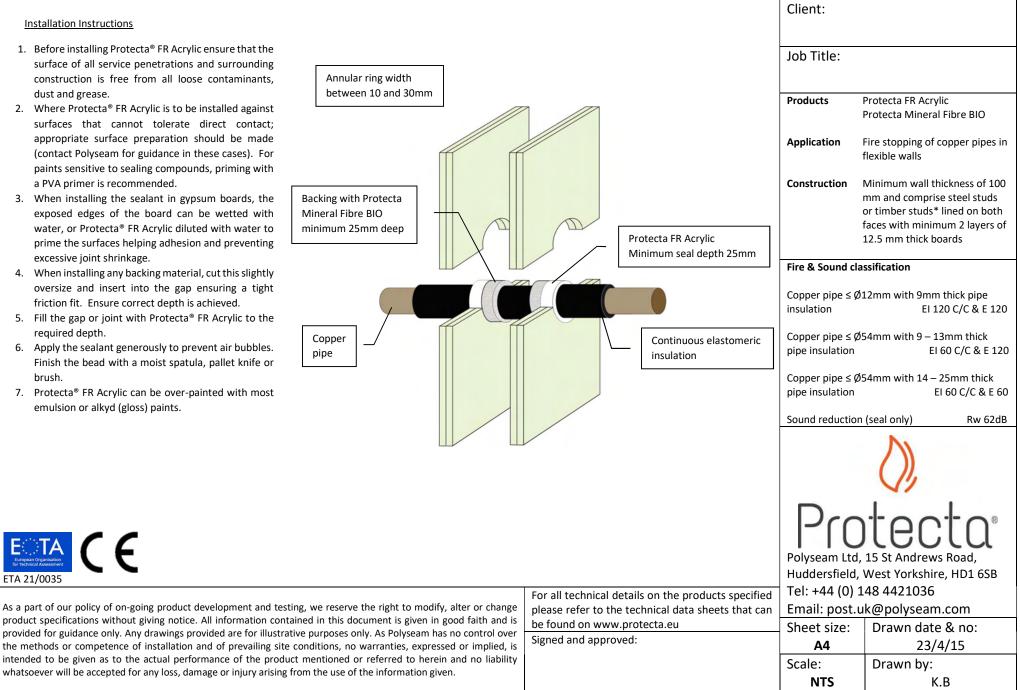
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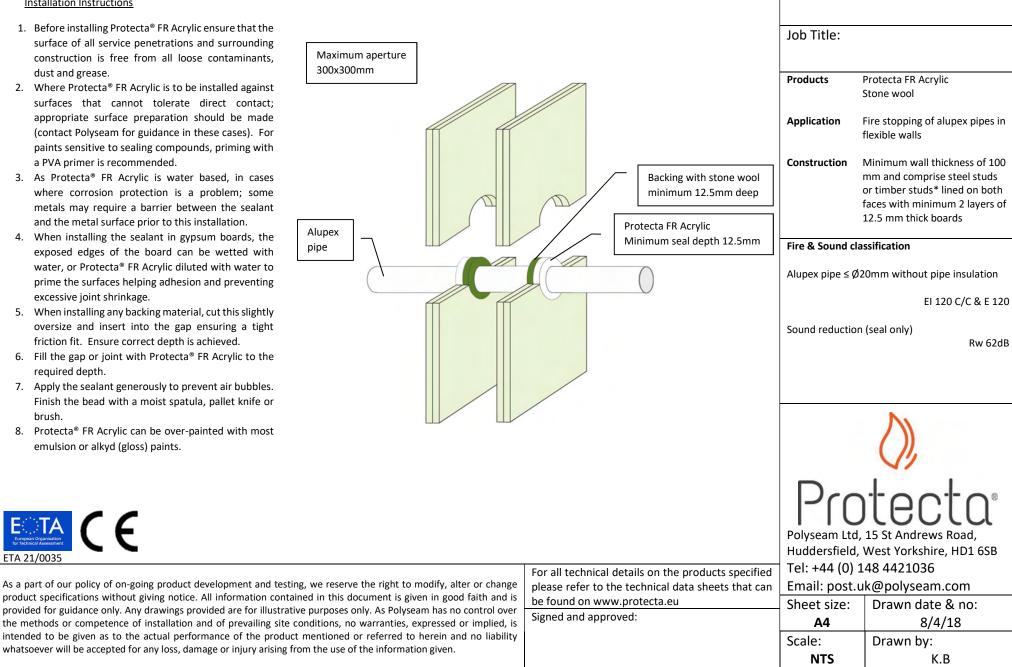


Client: Installation Instructions 1. Before fitting the collars ensure that the gaps Job Title: between the pipe insulation and the separating Apertures with element are sealed with minimum 25mm deep minimum 8mm annular Protecta FR Acrylic to cover the opening. width around services Products Protecta FR Collar 2. Place suitable collars around the insulation and Protecta FR Acrylic ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that Application Fire stopping of copper pipes in the fixings can be inserted fully. flexible walls 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar Construction Minimum wall thickness of 100 mm and comprise steel studs shell. or timber studs* lined on both 4. Attach the collar with ≥ 0.000 Any gaps must be sealed faces with minimum 2 layers of or anchors with a length suitable for the number of with Protecta FR Acrylic 12.5 mm thick boards. boards that form the wall. Drywall, wood on both sides screws or Fire & Sound classification anchors of steel Copper pipe $\leq Ø54$ mm with 14 – 50mm thick pipe insulation EI 60 C/C & E 90 Continuous Sound reduction (seal only) Copper pipe elastomeric insulation Rw 62 dB ≤ Ø110mm Protecta FR Collar at 50mm height, or Ø125-160mm FR Collar at 60mm height Protecta European Organisation for technical assessment Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB ETA 21/0070 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Sheet size: Drawn date & no: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 22/8/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

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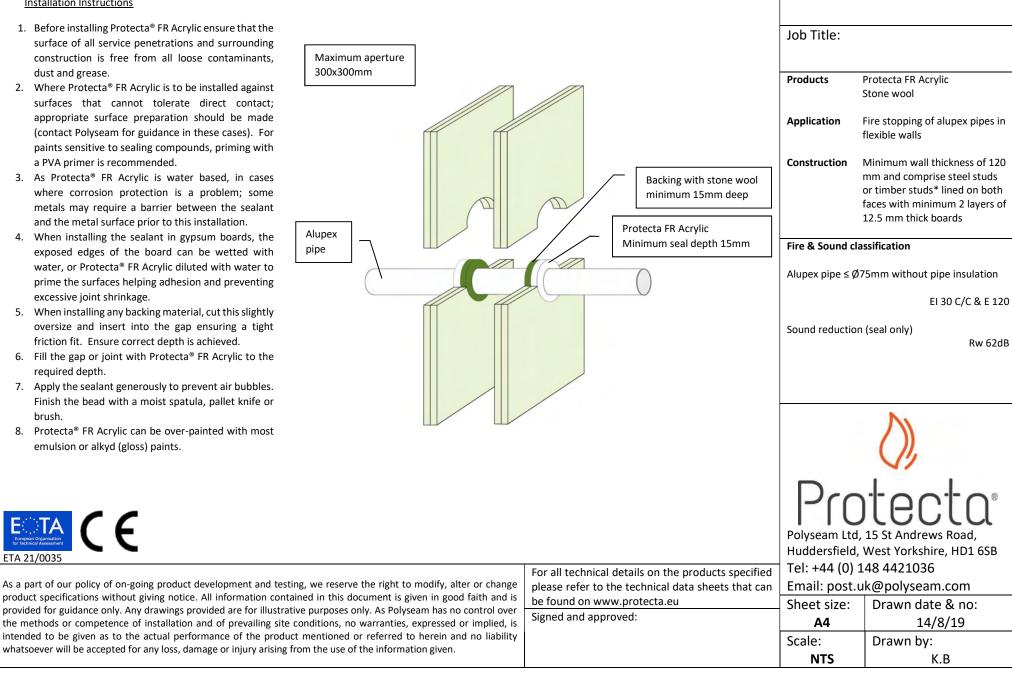
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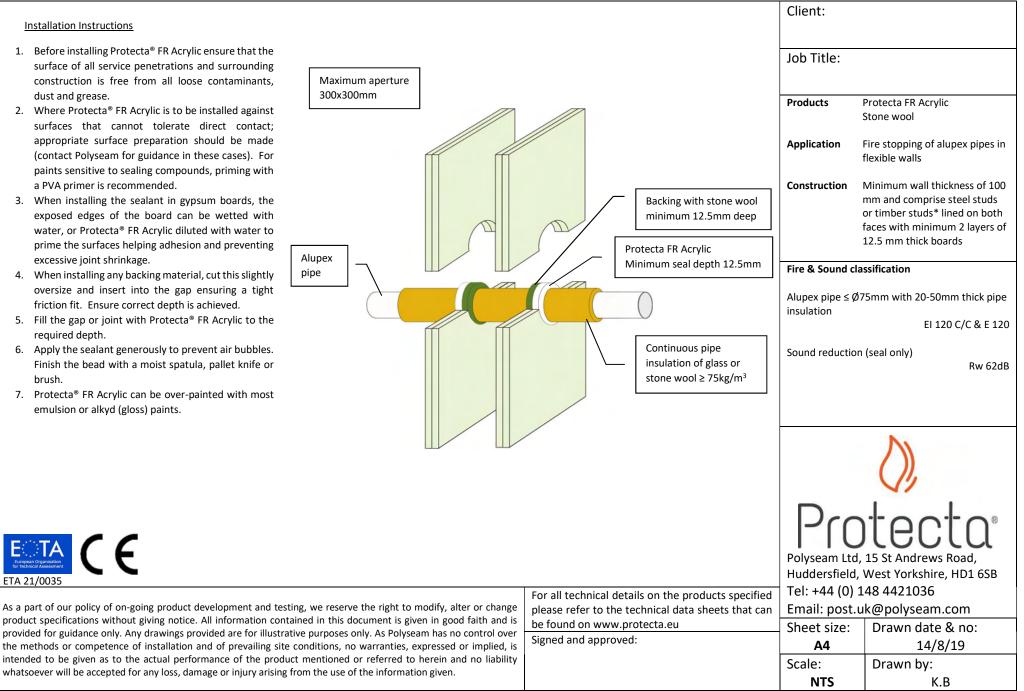
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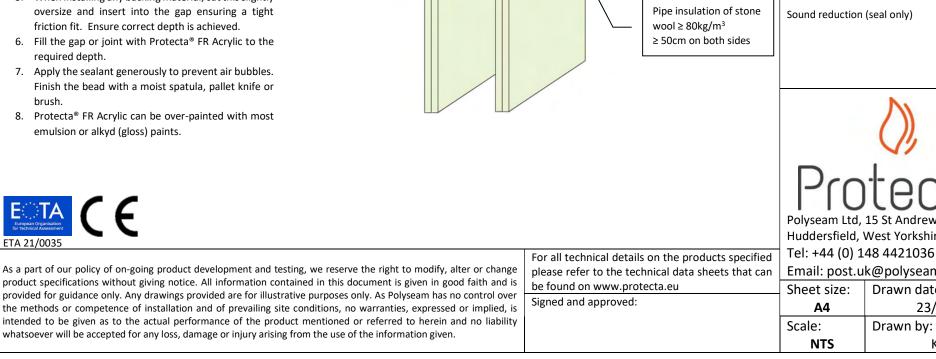
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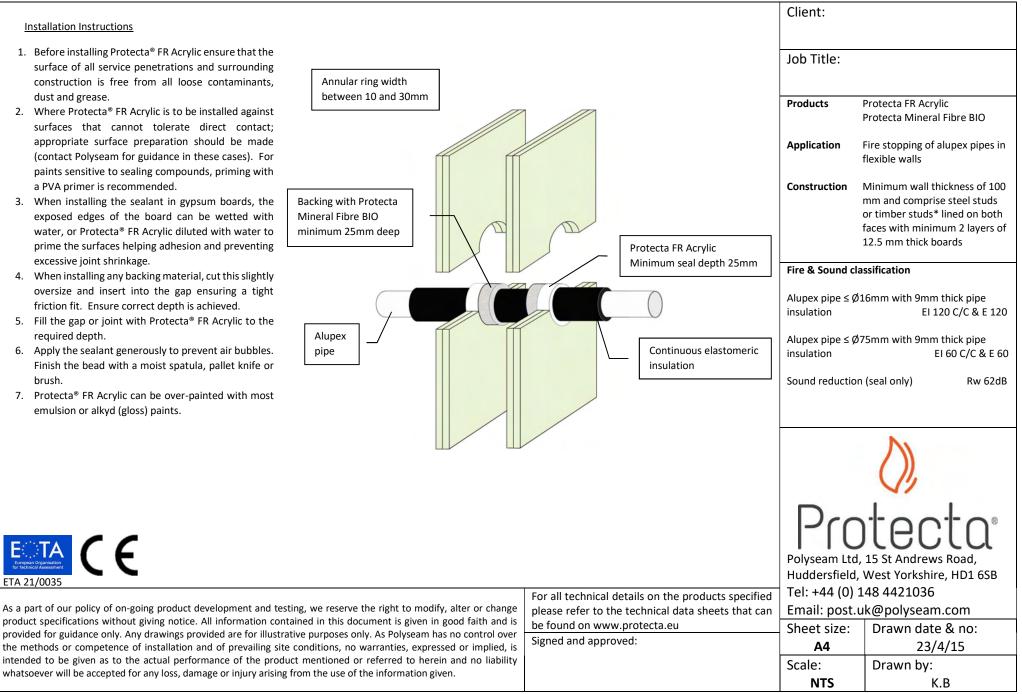


Client: Job Title: Maximum aperture 300x300mm Products Protecta FR Acrylic Stone wool Application Fire stopping of alupex pipes in flexible walls Minimum wall thickness of 100 Construction mm and comprise steel studs Backing with stone wool or timber studs* lined on both minimum 12.5mm deep faces with minimum 2 layers of 12.5 mm thick boards Protecta FR Acrylic Alupex Minimum seal depth 12.5mm Fire & Sound classification pipe Alupex pipe \leq Ø75mm with \geq 20mm thick pipe insulation EI 120 C/C & E 120 Sound reduction (seal only) Rw 62dB Protecto Polyseam Ltd. 15 St Andrews Road. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 Email: post.uk@polyseam.com Drawn date & no: 23/4/15

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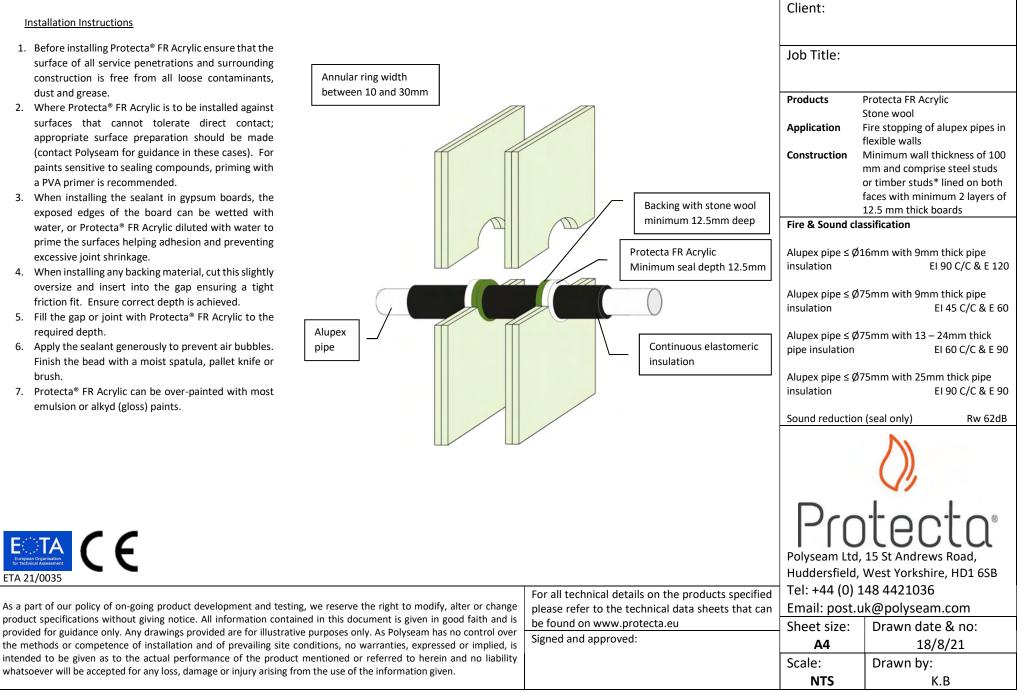
- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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 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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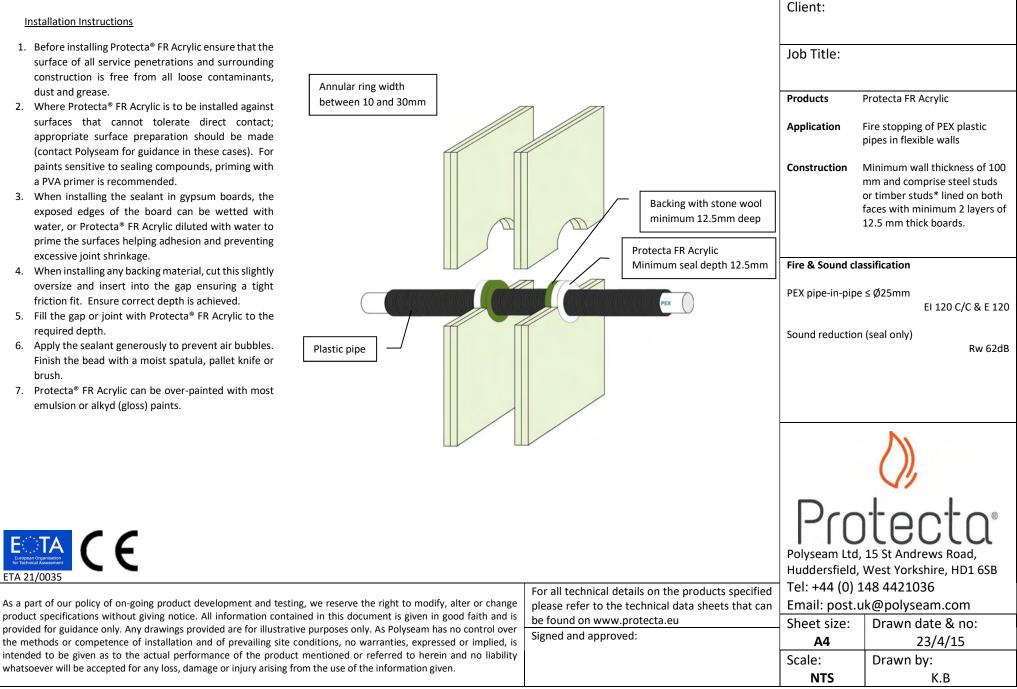
European Organisation for Technical Assessment



Client: Installation Instructions 1. Before fitting the collars ensure that the gaps Job Title: between the pipe insulation and the separating Apertures with element are sealed with minimum 25mm deep minimum 8mm annular Protecta FR Acrylic to cover the opening. width around services Products Protecta FR Collar 2. Place suitable collars around the insulation and Protecta FR Acrylic ensure that the collar shell and fixing lugs are positioned tightly to the surface of the wall, so that Application Fire stopping of alupex pipes in the fixings can be inserted fully. flexible walls 3. Where the surface is uneven, apply a sealing bead of Protecta[®] FR Acrylic between the wall and the collar Construction Minimum wall thickness of 100 mm and comprise steel studs shell. or timber studs* lined on both 4. Attach the collar with $\ge \emptyset$ 4mm drywall, wood screws Any gaps must be sealed faces with minimum 2 layers of or anchors with a length suitable for the number of with Protecta FR Acrylic 12.5 mm thick boards. boards that form the wall. Drywall, wood on both sides screws or Fire & Sound classification anchors of steel Alupex pipe \leq Ø75mm with 9 – 50mm thick pipe insulation EI 60 C/C & E 90 Continuous Sound reduction (seal only) Alupex pipe elastomeric insulation Rw 62 dB ≤ Ø110mm Protecta FR Collar at 50mm height, or Ø125-200mm FR Collar at 60mm height Protecto European Organisation for technical assessment Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB ETA 21/0070 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Sheet size: Drawn date & no: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 22/8/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

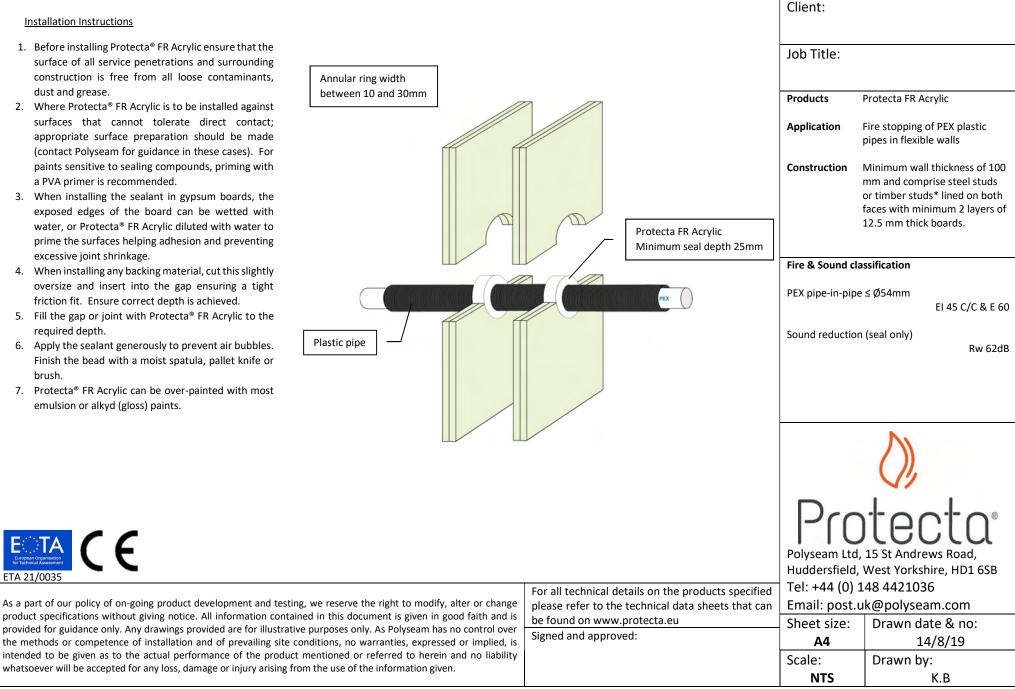
- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface 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 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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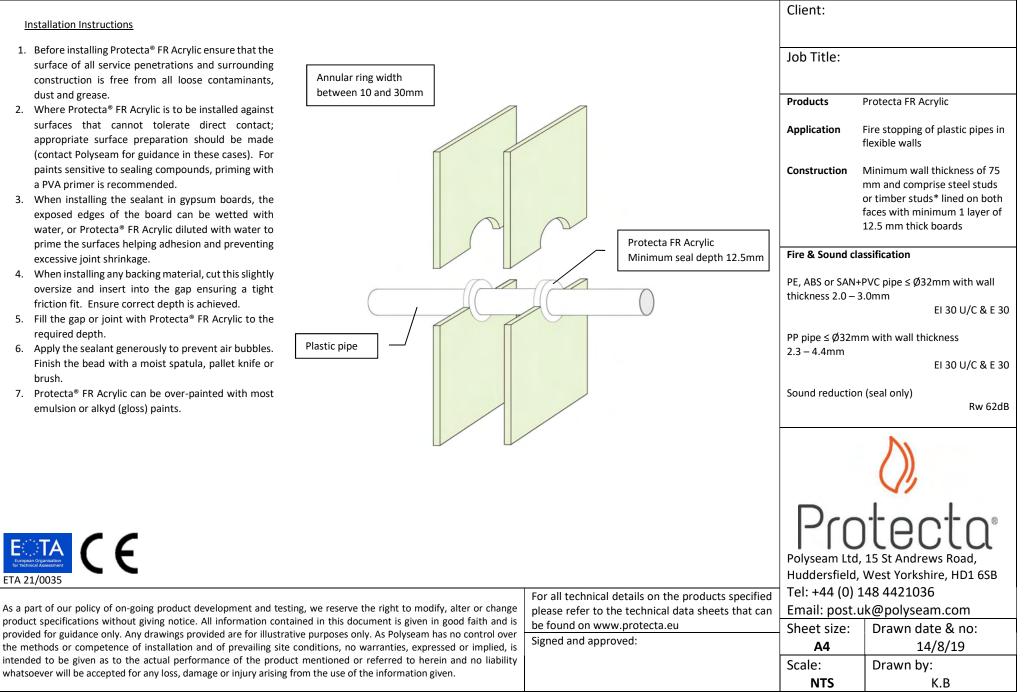
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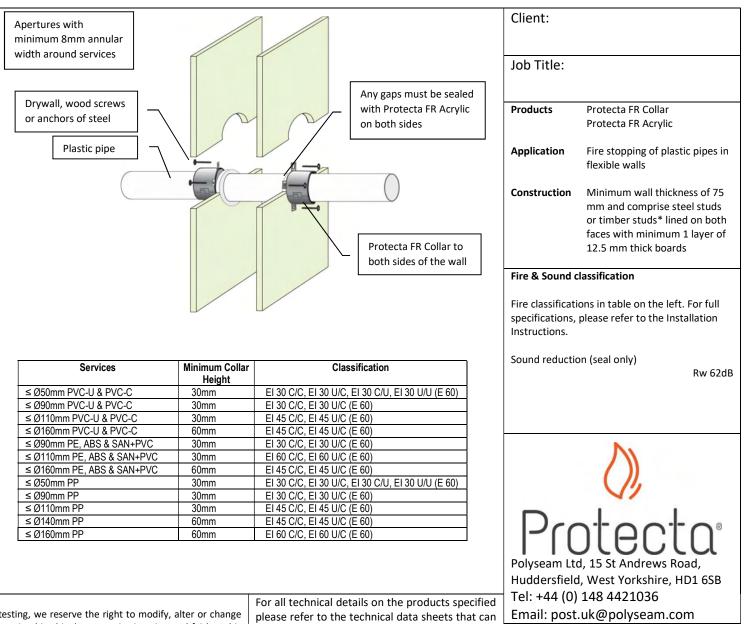
Installation Instructions		Client:		
 Before fitting the collars ensure that the gaps between the pipes and the separating element are sealed with minimum 25mm deep Protecta FR Apertures with minimum 8mm annular 		Job Title:		
 Acrylic to cover the opening. Place suitable collars around the pipes and ensure that the collar shell and fixing lugs are positioned 		Products	Protecta FR Collar Protecta FR Acrylic	
tightly to the surface of the wall, so that the fixingscan be inserted fully.3. Where the surface is uneven, apply a sealing bead of		Application	Fire stopping of PEX plastic pipes in flexible walls	
 Protecta® FR Acrylic between the wall and the collar shell. 4. Attach the collar with ≥ Ø4mm drywall, wood screws or anchors with a length suitable for the number of boards that form the wall. 	Any gaps must be sealed with Protecta FR Acrylic on both sides	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	
screws or anchors of steel		Fire & Sound classification		
Plastic pipes ≤ Ø55mm FR Collar at ≥ 30mm height			PEX pipe-in-pipes ≤ Ø25mm, single, or in a bundle ≤ Ø55mm EI 90 C/C & E 120 Sound reduction (seal only) Rw 62 dB	
		$\langle \rangle \rangle$		
ETA 21/0070		Polyseam Ltd	, 15 St Andrews Road, West Yorkshire, HD1 6SB	
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	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:	Tel: +44 (0) 148 4421036 Email: post.uk@polyseam.com Sheet size: Drawn date & no:		
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		A4 Scale:	25/8/21 Drawn by:	
whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.		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.
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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.
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- Before fitting the collars ensure that the gaps between the pipe and the separating element are sealed with minimum 12.5mm deep Protecta FR Acrylic to cover the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and 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 and the collar shell.
- Attach the collar with ≥ Ø4mm drywall, wood screws or anchors with a length suitable for the number of boards that form 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:

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25/8/21

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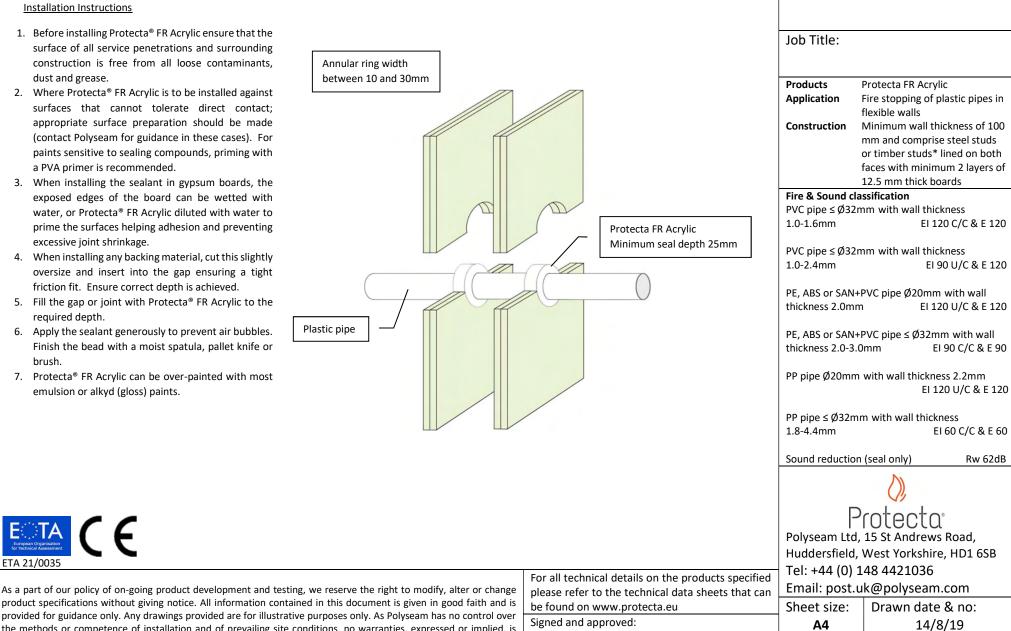
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- 1. Before installing Protecta[®] FR Acrylic ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
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- 6. Apply the sealant generously to prevent air bubbles. Finish the bead with a moist spatula, pallet knife or brush.
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Client:

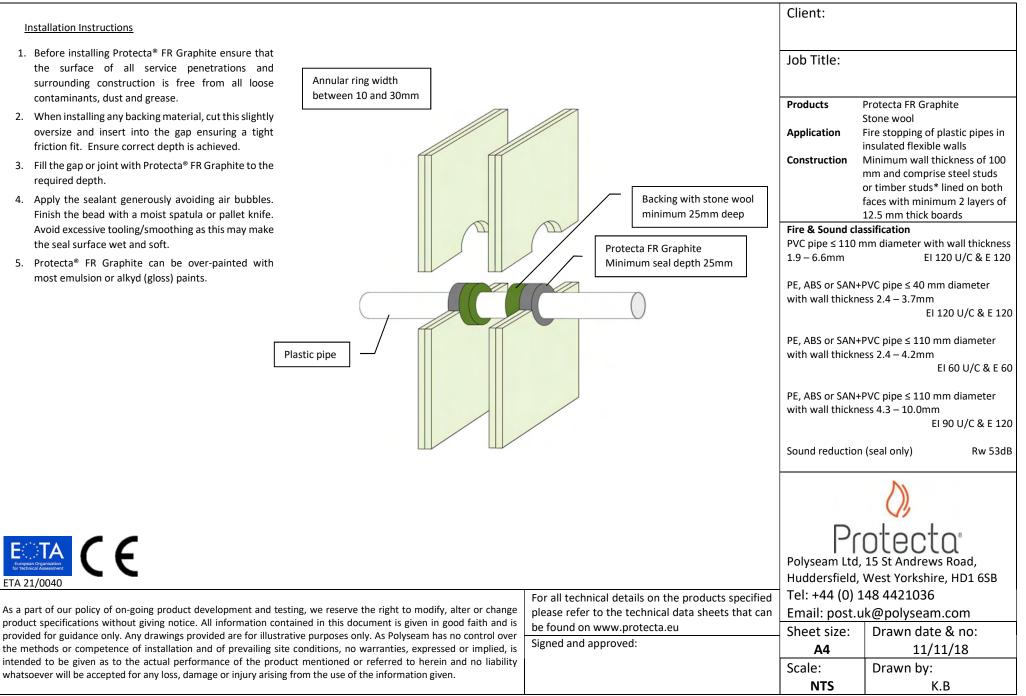
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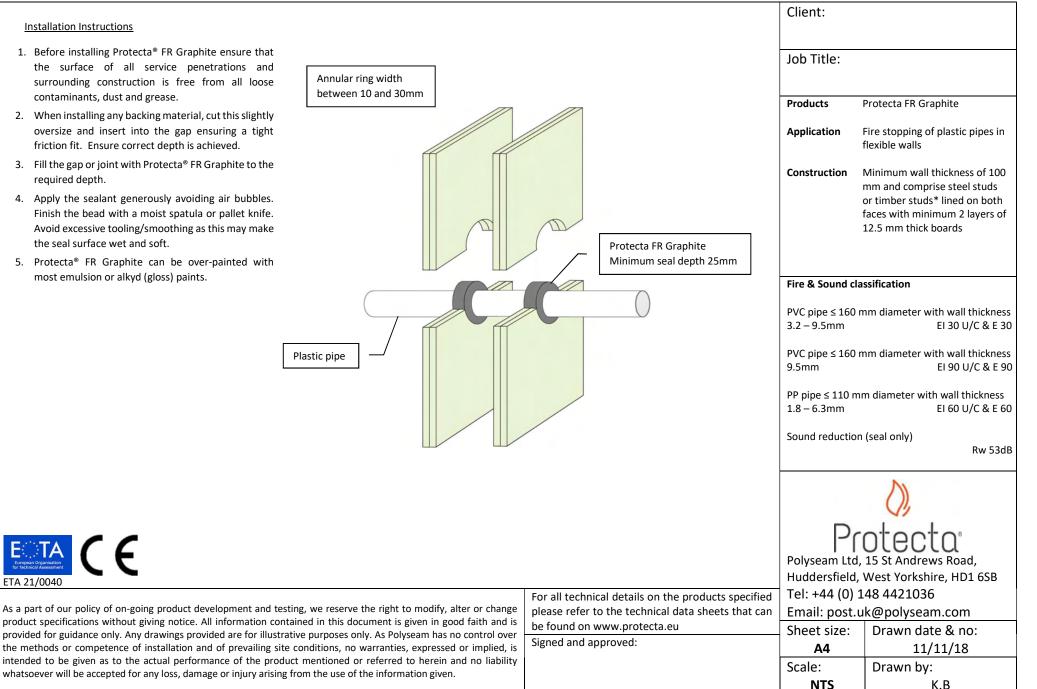
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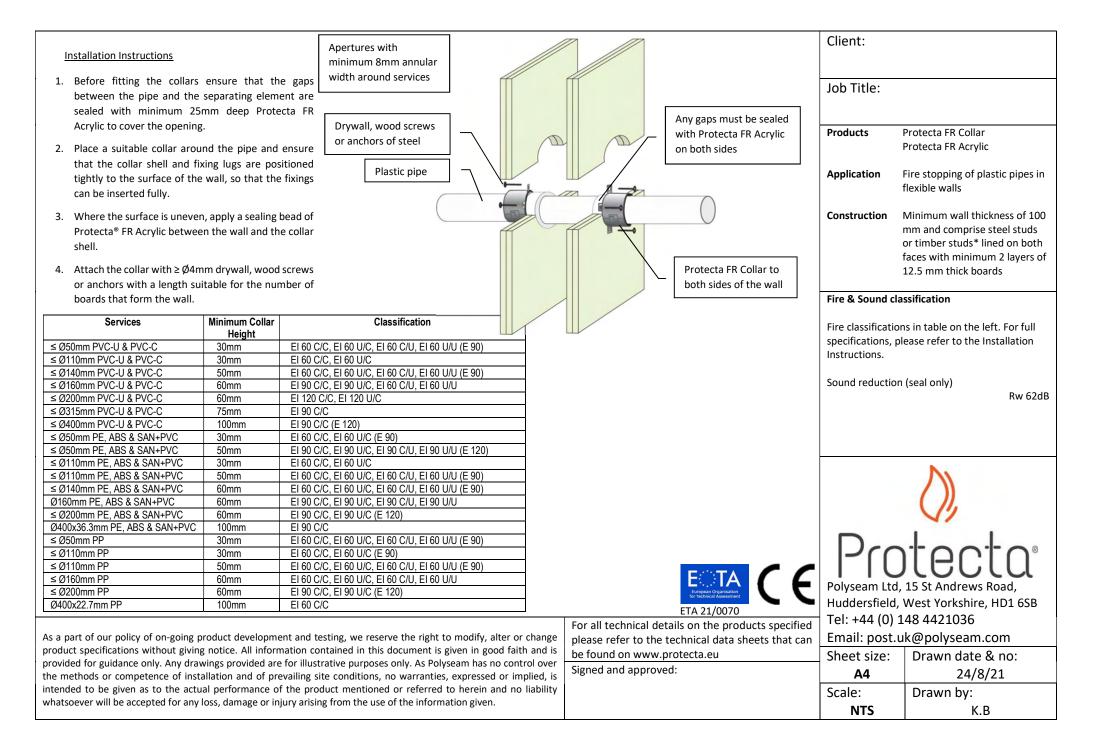
- 1. Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. When installing any backing material, cut this slightly oversize and insert into the gap ensuring a tight friction fit. 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.



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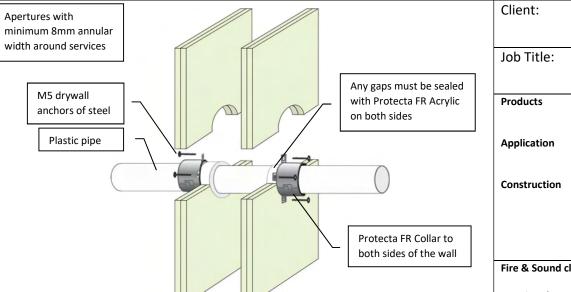




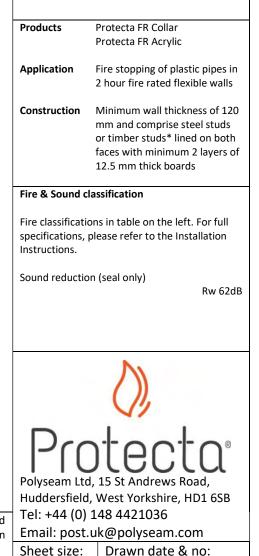
European Organisation for Technical Assessment

ETA 21/0070

- Before fitting the collars ensure that the gaps between the pipe and the separating element are sealed with minimum 25mm deep Protecta FR Acrylic to cover the opening.
- 2. Place a suitable collar around the pipe and ensure that the collar shell and 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 and the collar shell.
- Attach the collar with M5 drywall anchors with a length suitable for the number of boards that form the wall.



Services	Minimum Collar Height	Classification
≤ Ø110mm PVC-U & PVC-C	50mm	EI 120 C/C
≤ Ø160mm PVC-U & PVC-C	60mm	EI 120 C/C
≤ Ø200mm PVC-U & PVC-C	60mm	EI 120 C/C, EI 120 U/C
≤ Ø50mm PE, ABS & SAN+PVC	50mm	EI 120 C/C
≤ Ø110mm PE, ABS & SAN+PVC	50mm	EI 90 C/C (E 120)
Ø110x3.4mm PE, ABS & SAN+PVC	50mm	EI 120 C/C
≤ Ø160mm PE, ABS & SAN+PVC	60mm	EI 120 C/C
≤ Ø50mm PP	50mm	EI 120 C/C
≤ Ø110mm PP	50mm	EI 90 C/C (E 120)
≤Ø140mm PP	60mm	EI 90 C/C (E 120)
Ø160mm PP	60mm	EI 120 C/C



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Signed and approved:	

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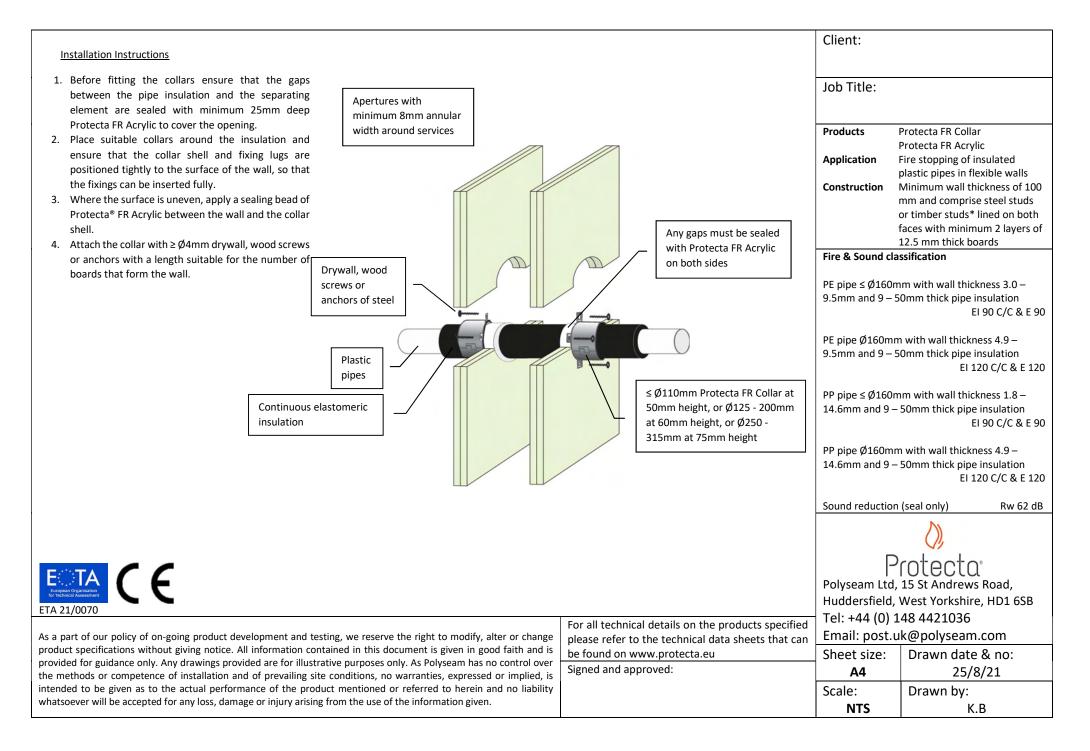
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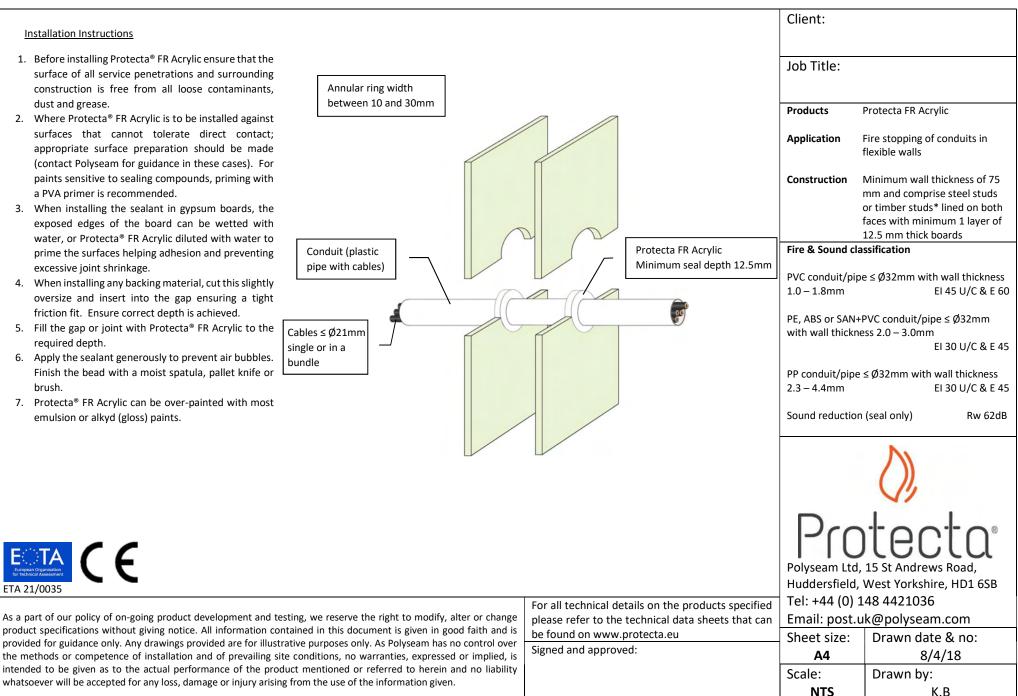
- 1. Before fitting the collars ensure between the pipe and the separatin sealed with minimum 25mm deep Acrylic to cover the opening.
- 2. Place a suitable collar around the pi that the collar shell and fixing lugs tightly to the surface of the wall, so can be inserted fully.
- 3. Where the surface is uneven, apply a Protecta[®] FR Acrylic between the wal shell.
- 4. Attach the collar with ≥ 0.000 % % or anchors with a length suitable for boards that form the wall.



or anchors with a length suitable for the number of boards that form the wall. Fire & Sound classification Fire classifications in table on the left.	or full
Services Minimum Collar Classification specifications, please refer to the Insta Instructions. Instructions. Instructions. Instructions.	lation
Height Instructions. ≤ Ø32mm Aquatherm Green SDR9 30mm EI 120 C/C	
≤ 0.02 mm Aquaterin Green SDR9 S0 mm EI 120 C/C Sound reduction (seal only)	
$\leq \emptyset$ 110mm Aquatherm Green SDR9 50mm EI 60 C/C (E 120)	Rw 62dB
≤ 000 mm BiuePower ≤ 00 mm ≤ 1.00 C/C, ≤ 1.00 C/U, ≤ 1.00 U/U (≤ 1.20)	
$\leq \emptyset$ 110mm BluePower 50mm EI 60 C/C, EI 60 C/C, EI 60 C/U (E 120)	
Ø125mm BluePower 60mm EI 60 C/C, EI 60 C/U	
Ø160mm BluePower 60mm EI 90 C/C, EI 90 C/U	
≤ Ø50mm Geberit Silent-PP 50mm EI 120 C/C, EI 120 C/U, EI 120 U/U	
$\leq \emptyset$ 110mm Geberit Silent-PP 50mm EI 60 C/C, EI 60 U/C, EI 60 U/C, EI 60 U/U (E 120)	
≤ Ø50mm Polo-Kal NG pipes 50mm El 120 C/C, El 120 C/U, El 120 U/U	
$\leq \emptyset$ 110mm Polo-Kal NG pipes 50mm EI 90 C/C, EI 90 U/C, EI 90 U/U (E 120)	
Ø125mm Polo-Kal NG pipes 60mm EI 120 C/C, EI 120 U/C (E 120 U/U)	
Ø 160mm Polo-Kai NG pipes 60mm EI 120 C/C, EI 120 C/C, EI 120 C/C, EI 120 C/C EI 120 C/C, EI 120 C/C, EI 120 C/C ≤ Ø50mm Rehau Raupiano Plus 50mm EI 90 C/C, EI 90 U/C, EI 90 U/C, EI 90 U/U (E 120) Profector ≤ Ø110mm Rehau Raupiano Plus 50mm EI 60 C/C, EI 60 U/C, EI 60 U/U, EI 60 U/U (E 120) Profector ≤ Ø160mm Rehau Raupiano Plus 60mm EI 120 C/C, EI 120 U/C, EI 120 U/U EI 120 U/U Profector	
≤ Ø110mm Rehau Raupiano Plus 50mm EI 60 C/C, EI 60 U/C, EI 60 U/U (E 120)	
≤ Ø160mm Rehau Raupiano Plus 60mm El 120 C/C, El 120 C/U, El 120 U/U	
≤Ø110mm Uponor Decibel pipes 50mm EI 60 C/C, EI 60 U/C (EI 60 U/U (E 120)	
≤ Ø50mm Wavin SiTech 50mm EI 120 C/C. EI 120 U/C. EI 120 U/U Polyseam Ltd, 15 St Andrews Roa	
< Ø110mm Wavin SiTech 50mm EL60 C/C EL60 L/C EL60 L/L EL60 L/L (E 120) L Hudderstield. West Yorkshire, H	1 6SB
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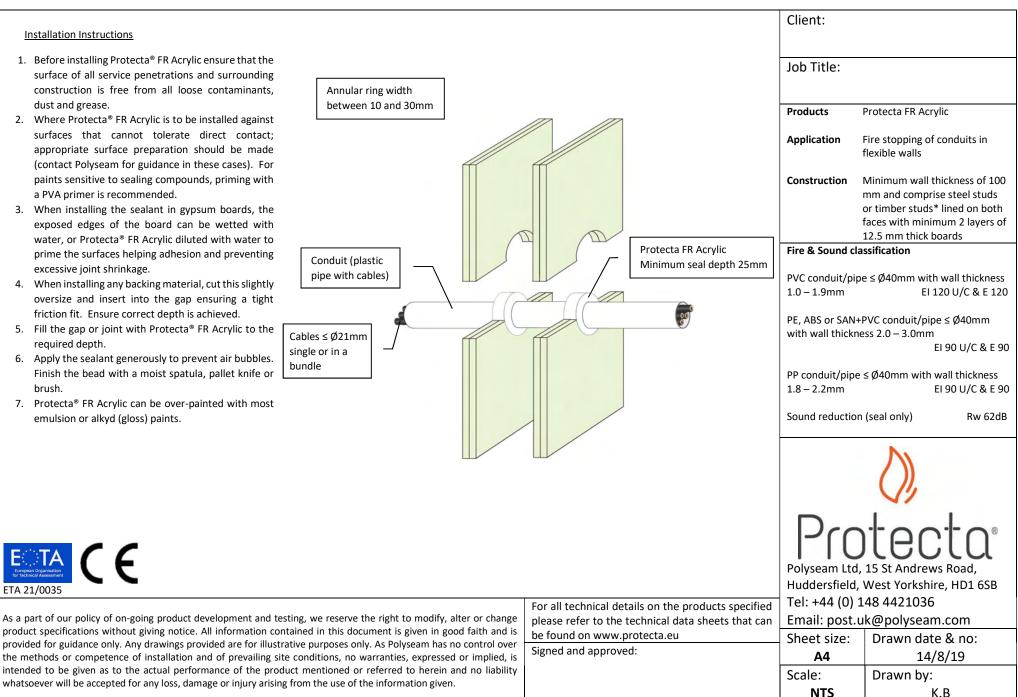
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- 2. Where Protecta[®] FR Acrylic is to be installed against surfaces that cannot tolerate direct contact; appropriate surface preparation should be made (contact Polyseam for guidance in these cases). For paints sensitive to sealing compounds, priming 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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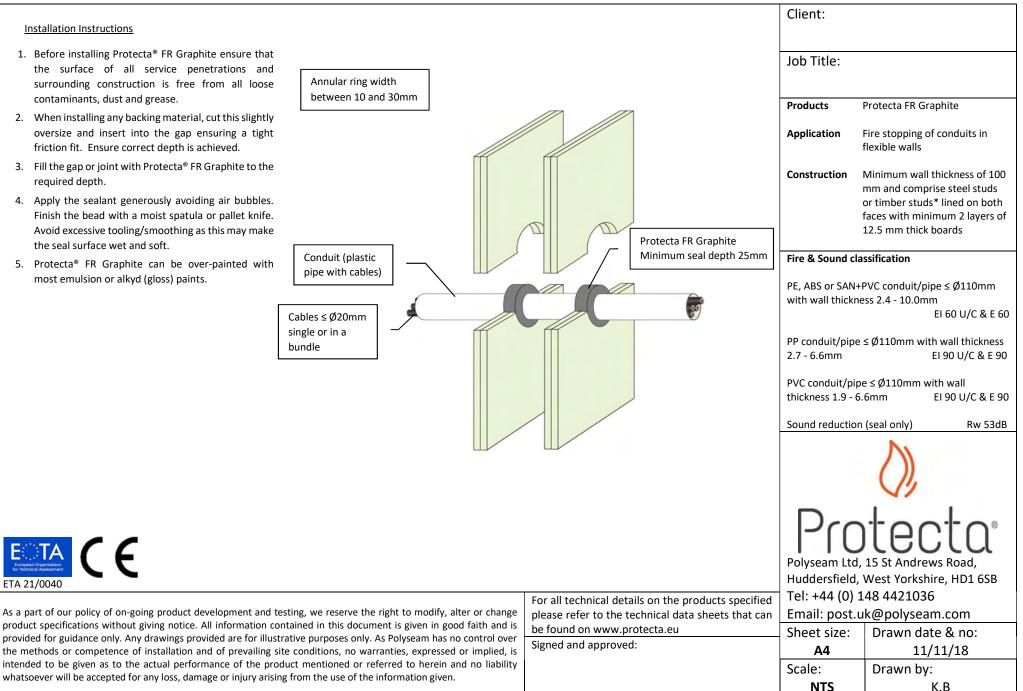
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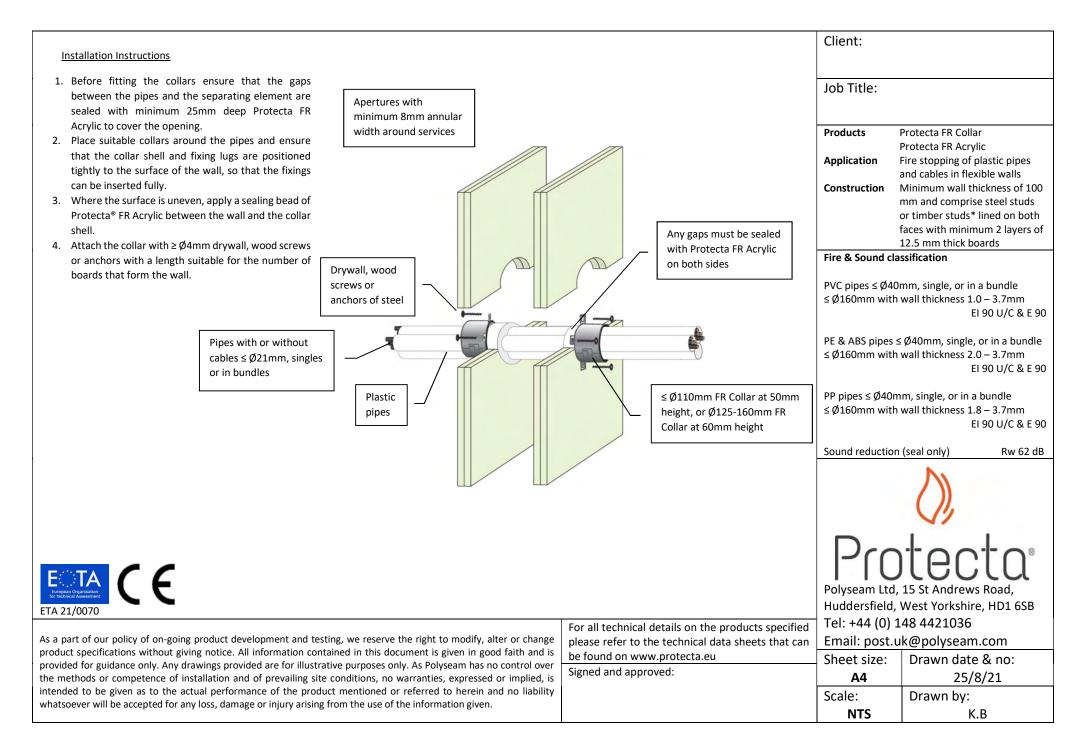
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- 1. Before installing Protecta® FR Graphite ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. When installing any backing material, cut this slightly oversize 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.



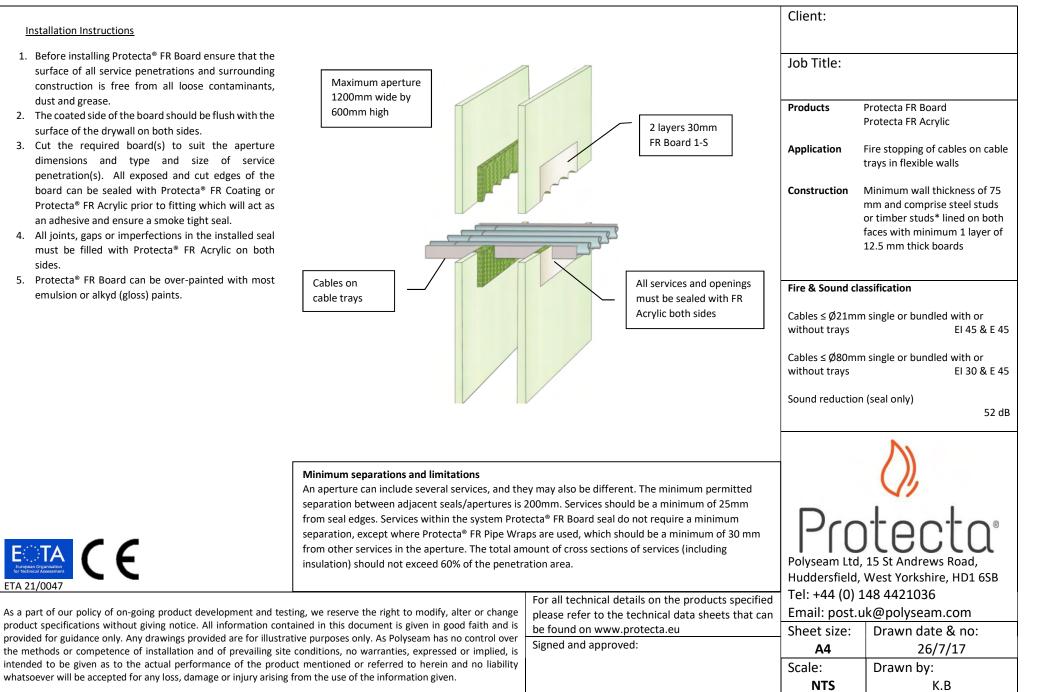


Appendix III

Service penetration solutions in larger apertures

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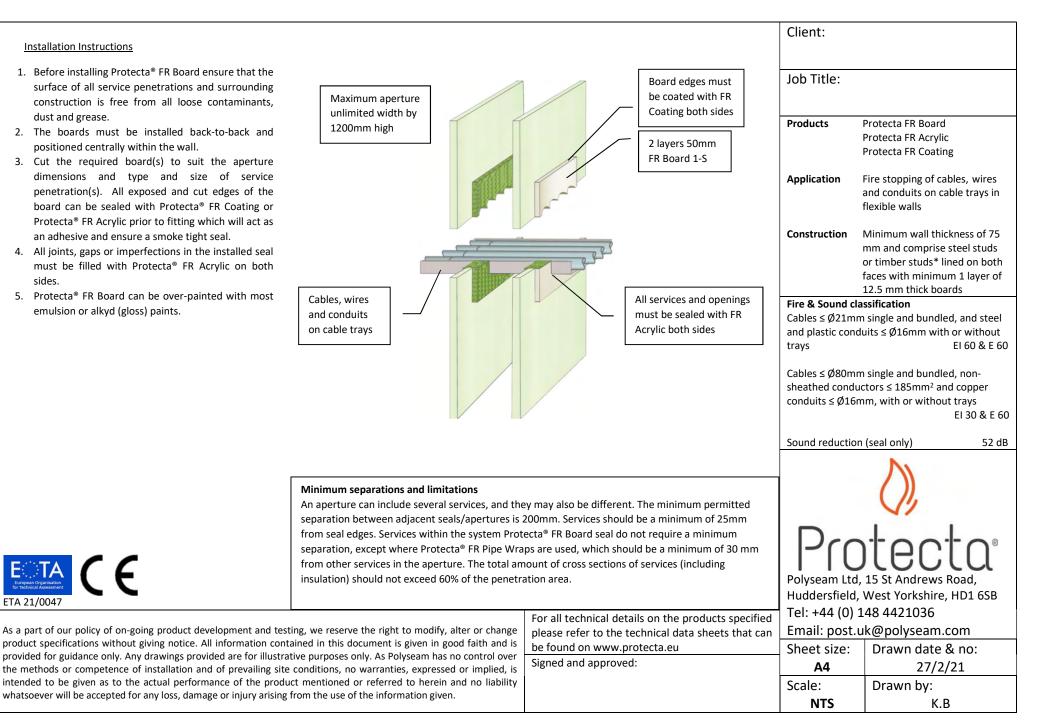
- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the drywall on both sides.
- 3. Cut the required board(s) 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.



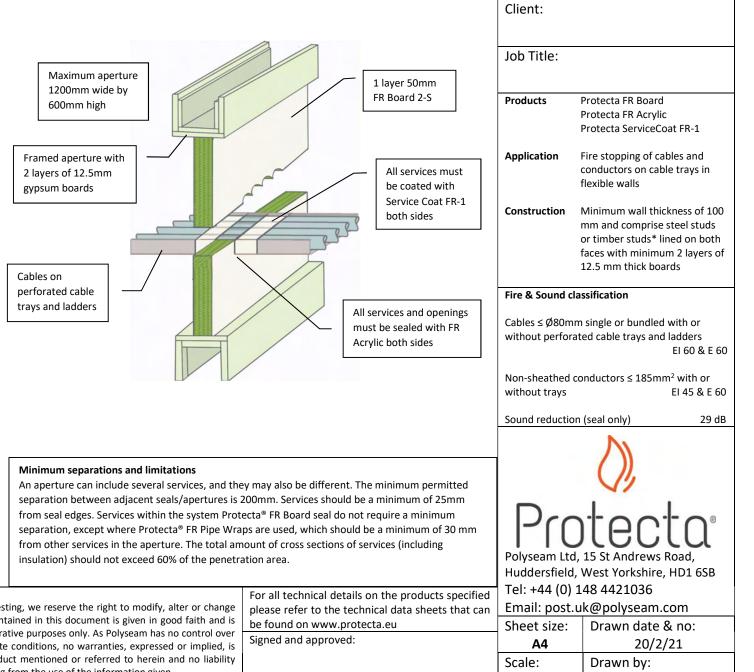


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- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards must be installed back-to-back and positioned centrally within the wall.
- 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.



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- 2. The board can be positioned to either side of the construction or anywhere in between.
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- 5. All cables and cable trays must be coated 150mm each side with 300 μ WFT Protecta Service Coat FR-1.
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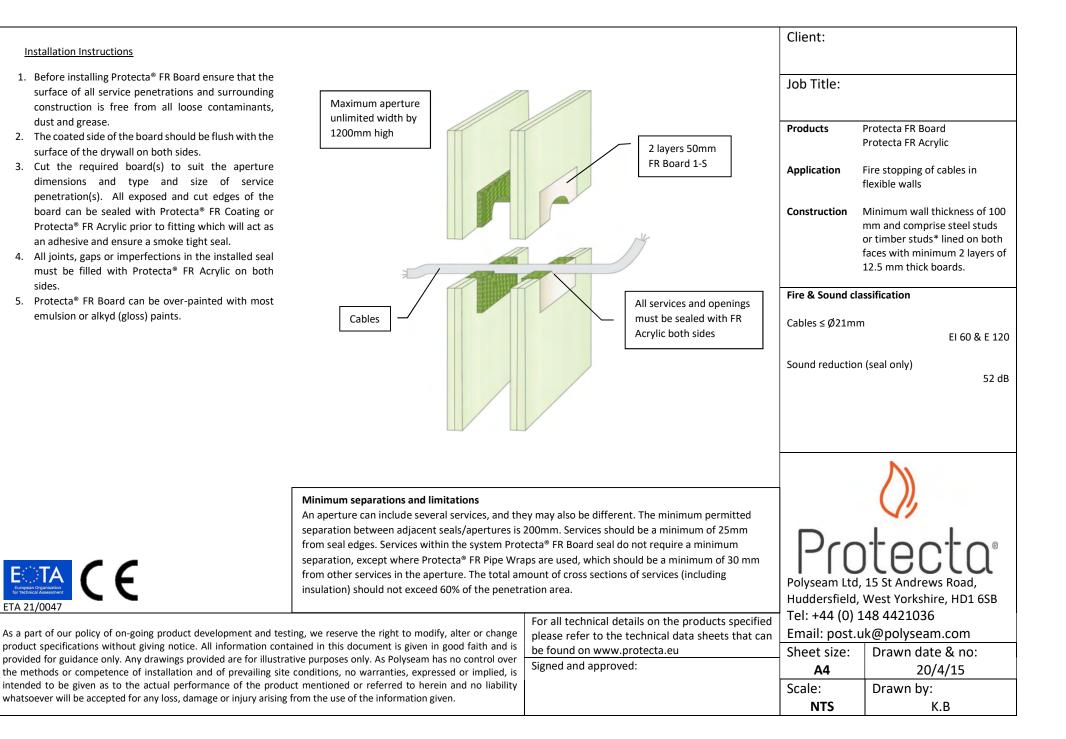


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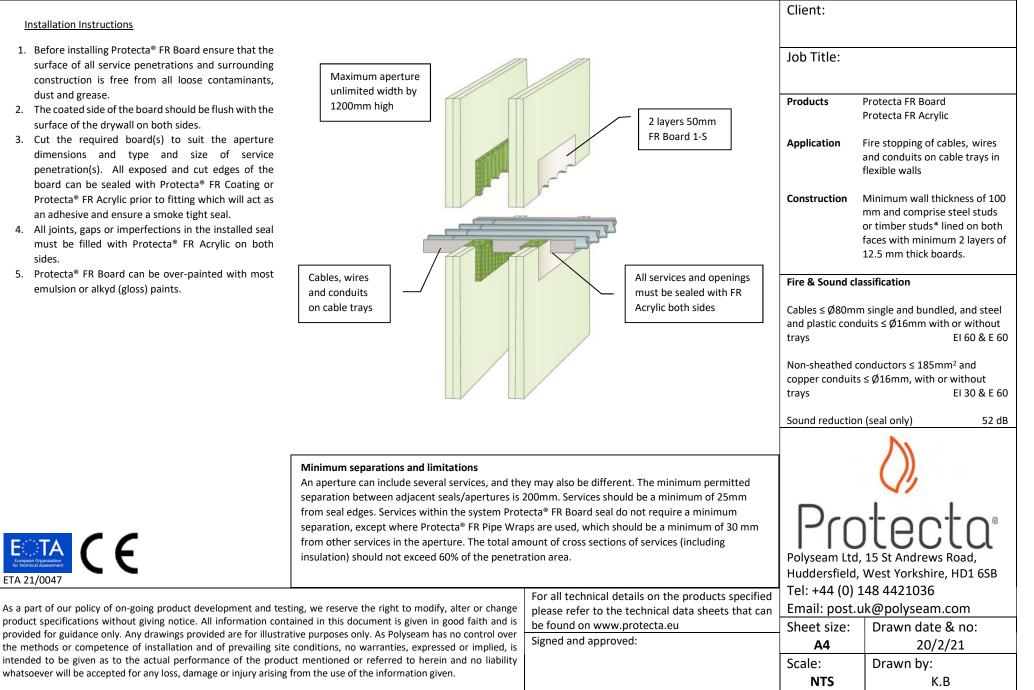
NTS

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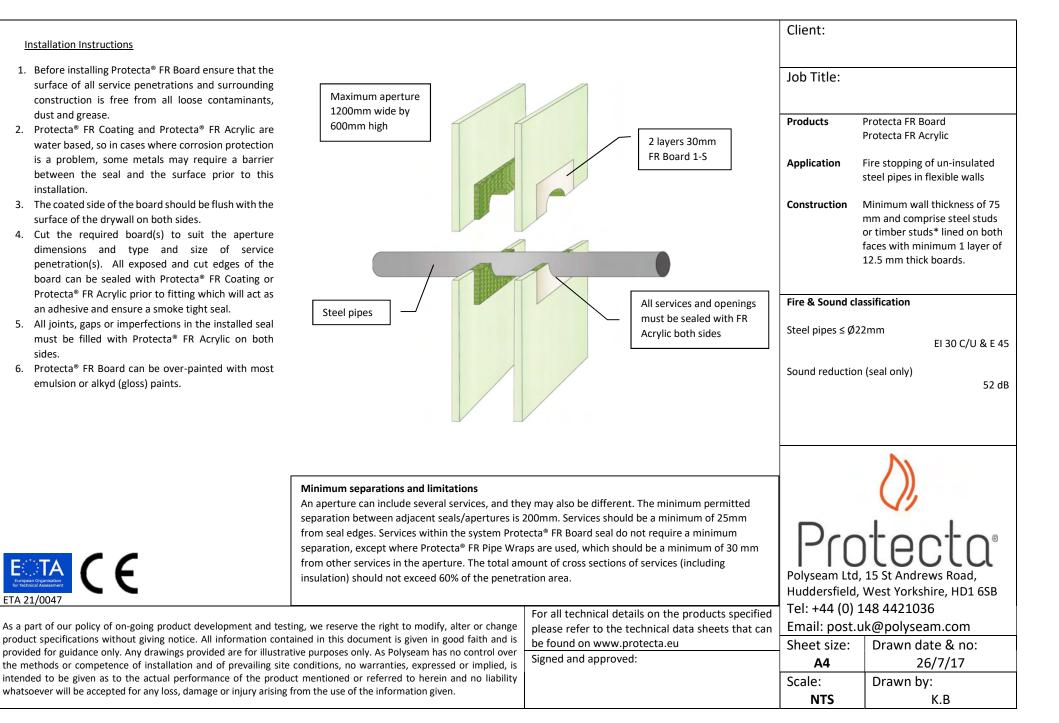
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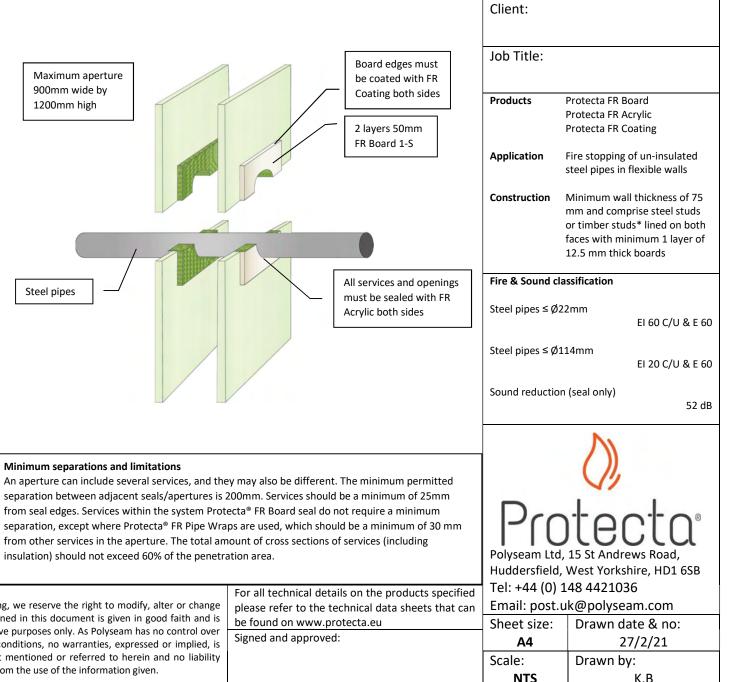
EUTRA CF ETA 21/0047

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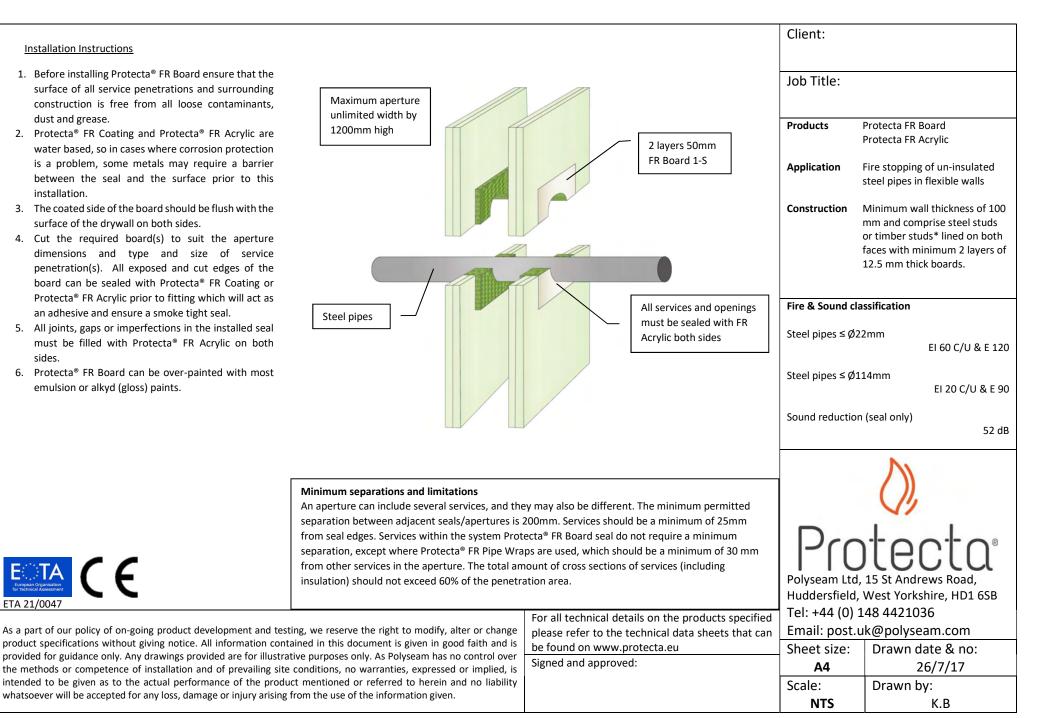
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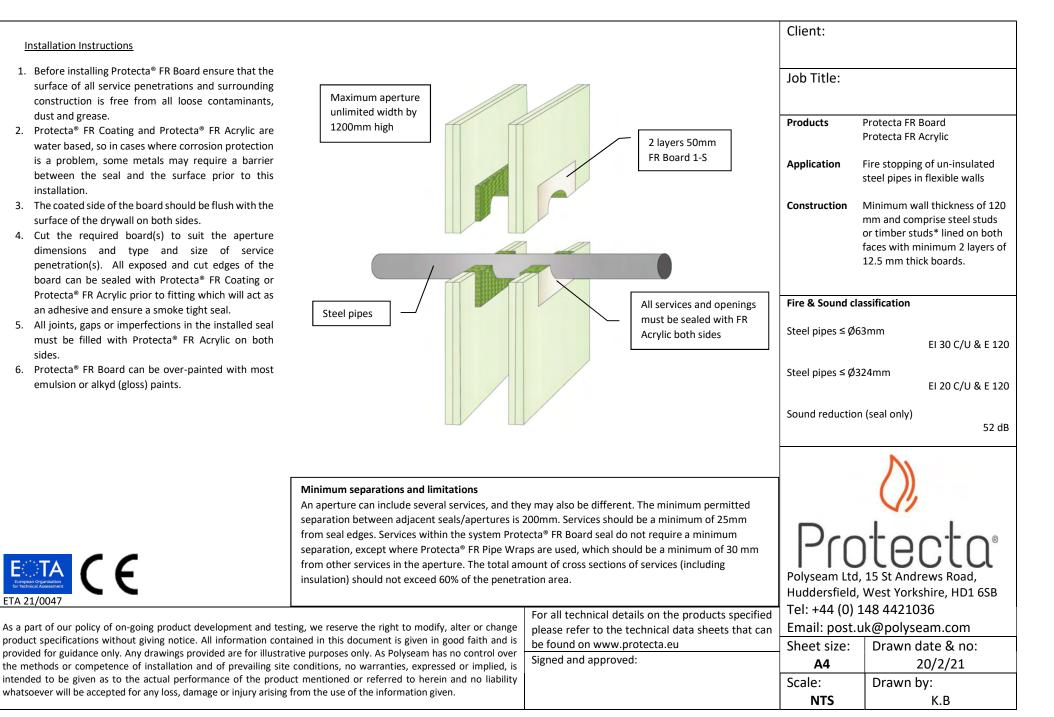


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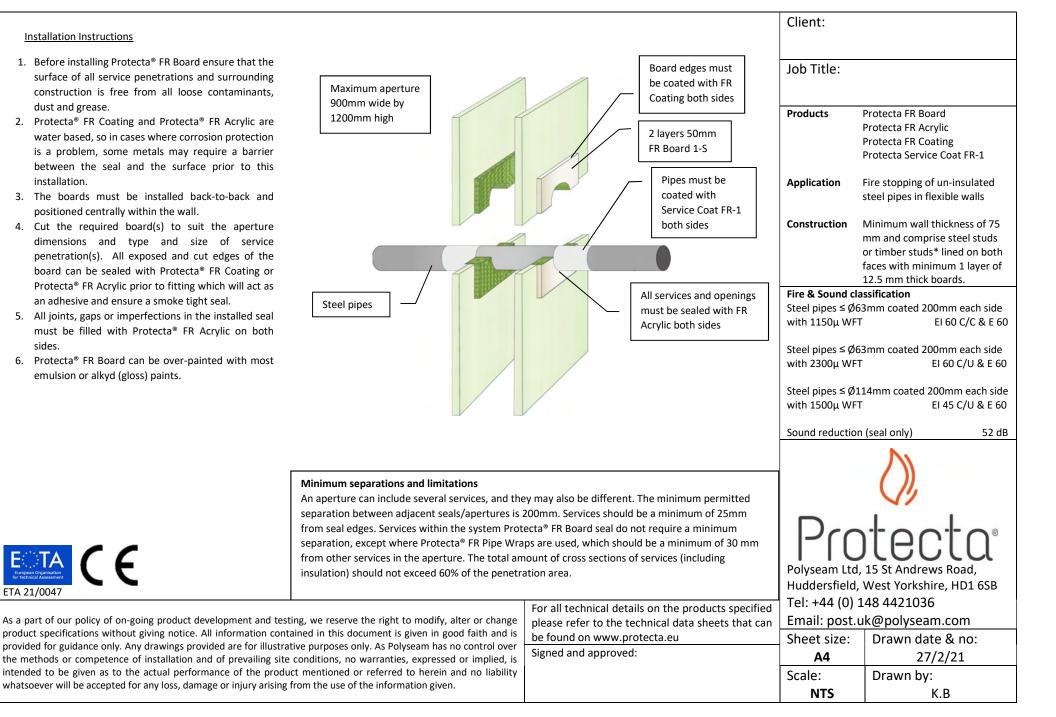


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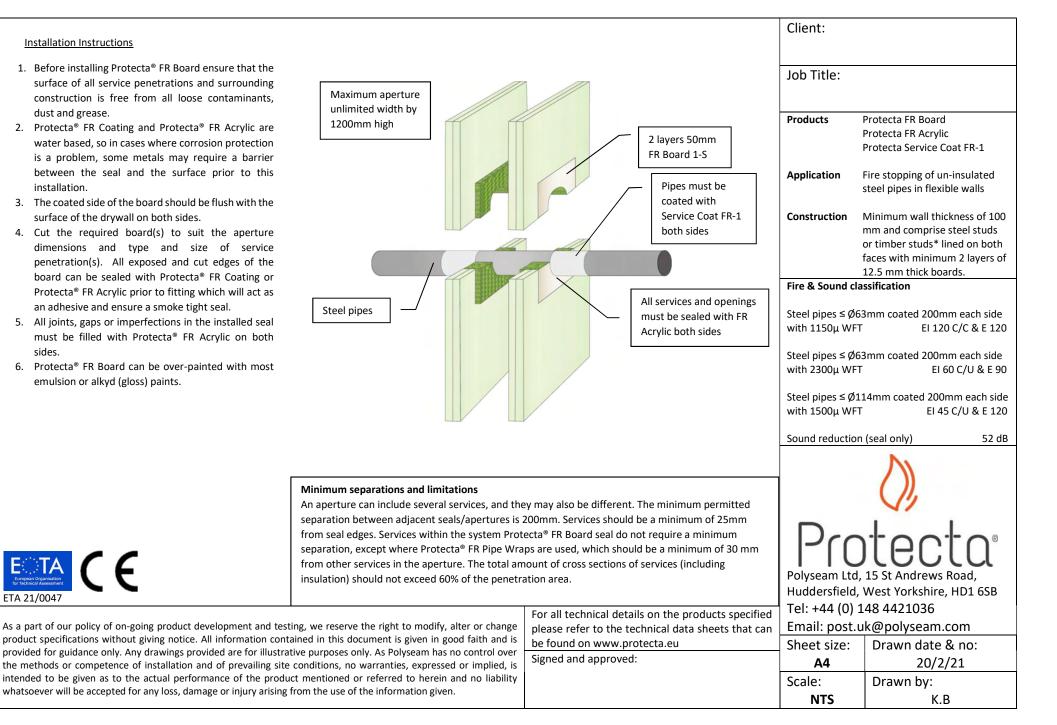
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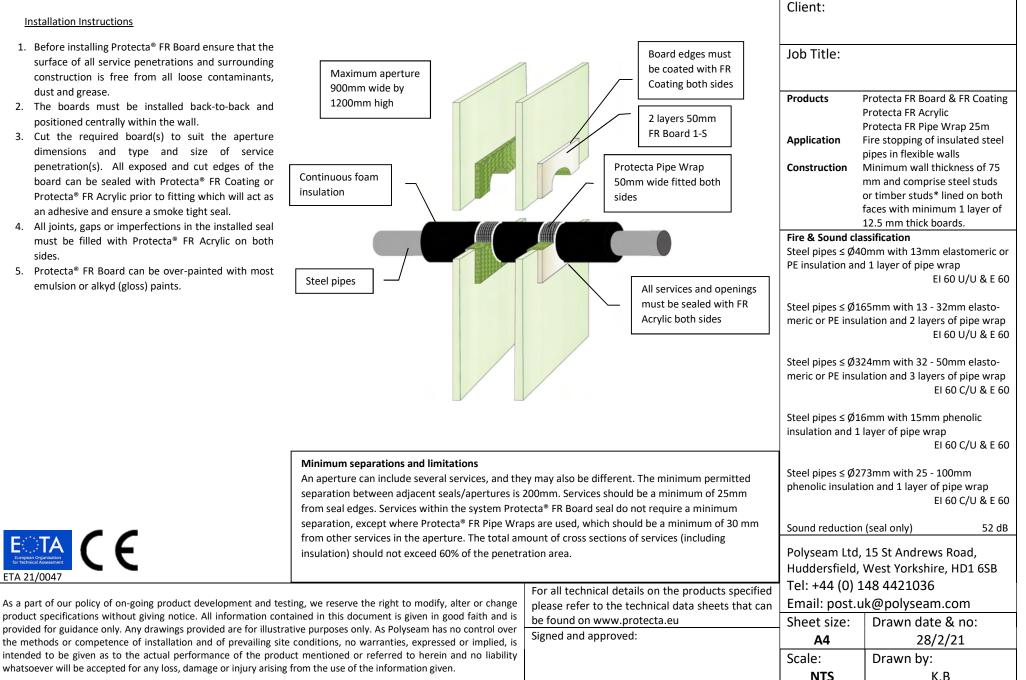


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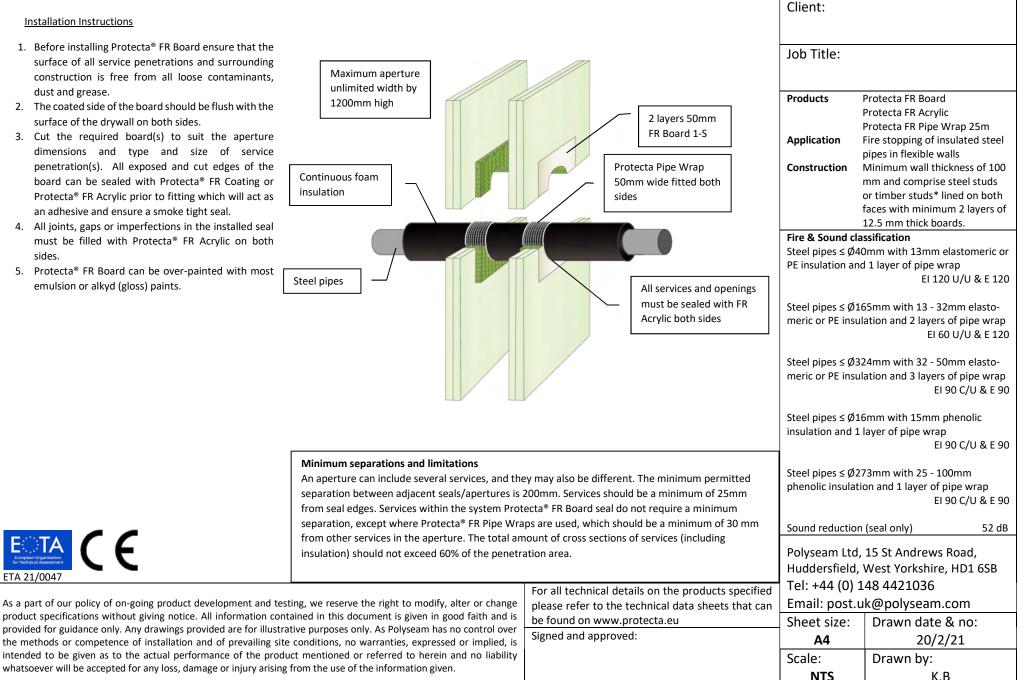
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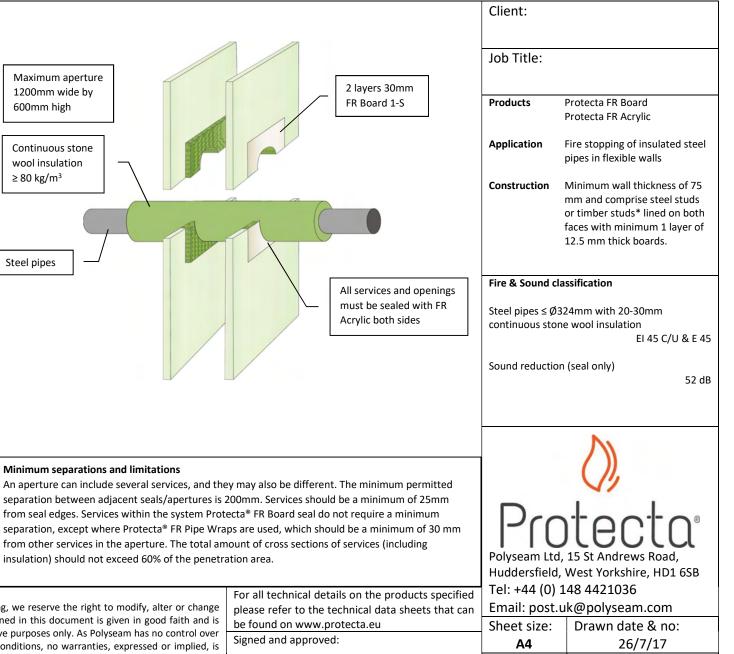


European Organisation for Technical Assessment

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on www.protecta.eu	Sheet size:	Drawn date	
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Client: Installation Instructions Board edges must 1. Before installing Protecta® FR Board ensure that the Job Title: be coated with FR surface of all service penetrations and surrounding Maximum aperture Coating both sides construction is free from all loose contaminants, 900mm wide by dust and grease. Products Protecta FR Board 1200mm high 2. The boards must be installed back-to-back and 2 layers 50mm Protecta FR Coating positioned centrally within the wall. FR Board 1-S Protecta FR Acrylic 3. Cut the required board(s) to suit the aperture Continuous stone dimensions and type and size of service Application Fire stopping of insulated steel wool insulation penetration(s). All exposed and cut edges of the pipes in flexible walls ≥ 80 kg/m³ board can be sealed with Protecta[®] FR Coating or Construction Minimum wall thickness of 75 Protecta[®] FR Acrylic prior to fitting which will act as mm and comprise steel studs an adhesive and ensure a smoke tight seal. or timber studs* lined on both 4. All joints, gaps or imperfections in the installed seal faces with minimum 1 layer of must be filled with Protecta® FR Acrylic on both 12.5 mm thick boards sides. Steel pipes 5. Protecta[®] FR Board can be over-painted with most Fire & Sound classification emulsion or alkyd (gloss) paints. All services and openings must be sealed with FR Steel pipes $\leq Ø324$ mm with 20-80mm Acrylic both sides continuous stone wool insulation EI 60 C/U & E 60 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm ЕСТА С С from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road, insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0047 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size:

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Signed and approved:

28/2/21

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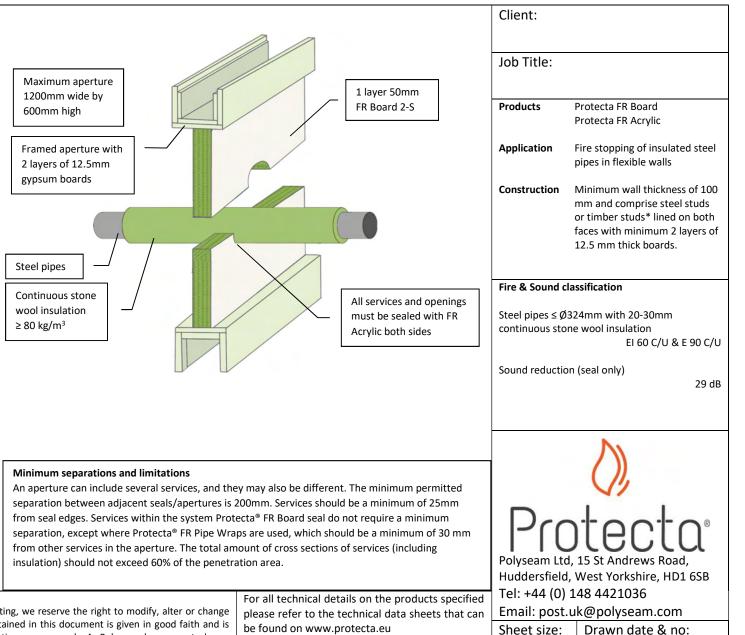
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Scale:

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be found on www.protecta.eu Signed and approved:

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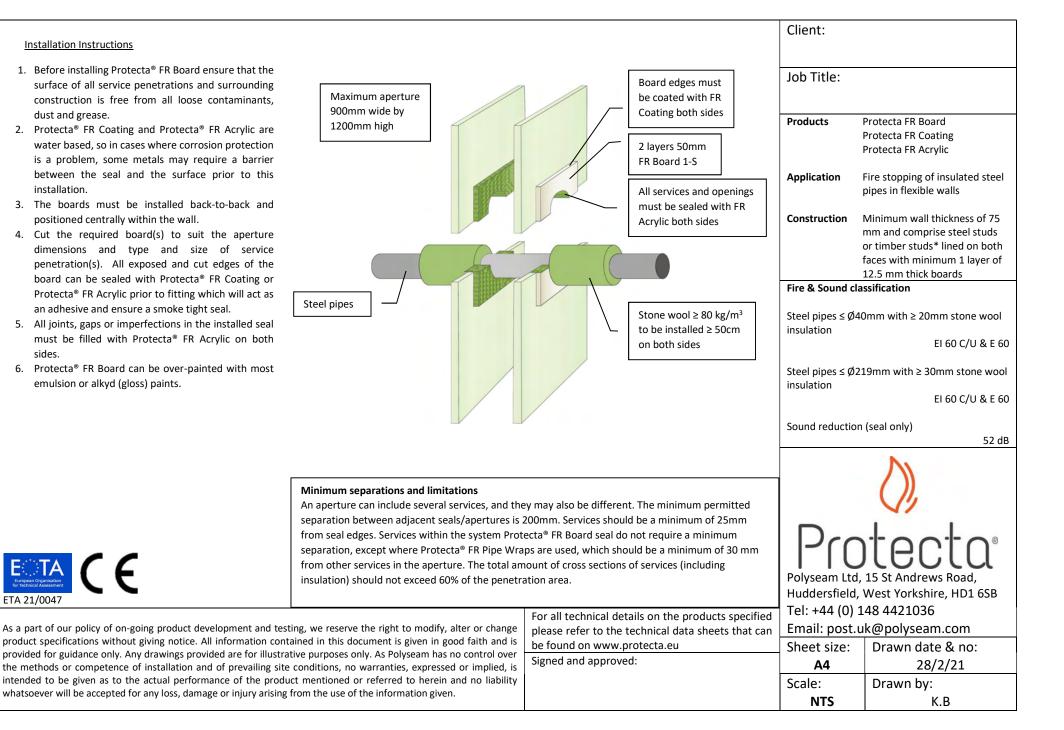
Client: Installation Instructions 1. Before installing Protecta® FR Board ensure that the Job Title: surface of all service penetrations and surrounding Maximum aperture construction is free from all loose contaminants, 2 layers 50mm unlimited width by dust and grease. FR Board 1-S Products Protecta FR Board 1200mm high 2. The coated side of the board should be flush with the Protecta FR Acrylic surface of the drywall on both sides. 3. Cut the required board(s) to suit the aperture Application Fire stopping of insulated steel Continuous stone dimensions and type and size of service pipes in flexible walls wool insulation penetration(s). All exposed and cut edges of the ≥ 80 kg/m³ board can be sealed with Protecta[®] FR Coating or Minimum wall thickness of 100 Construction mm and comprise steel studs Protecta[®] FR Acrylic prior to fitting which will act as or timber studs* lined on both an adhesive and ensure a smoke tight seal. faces with minimum 2 layers of 4. All joints, gaps or imperfections in the installed seal 12.5 mm thick boards. must be filled with Protecta® FR Acrylic on both sides. Steel pipes 5. Protecta[®] FR Board can be over-painted with most Fire & Sound classification emulsion or alkyd (gloss) paints. All services and openings must be sealed with FR Steel pipes $\leq Ø324$ mm with 20-80mm Acrylic both sides 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm ЕСТА С С from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road, insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0047 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 10/1/17 A4 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 Scale: Drawn by:

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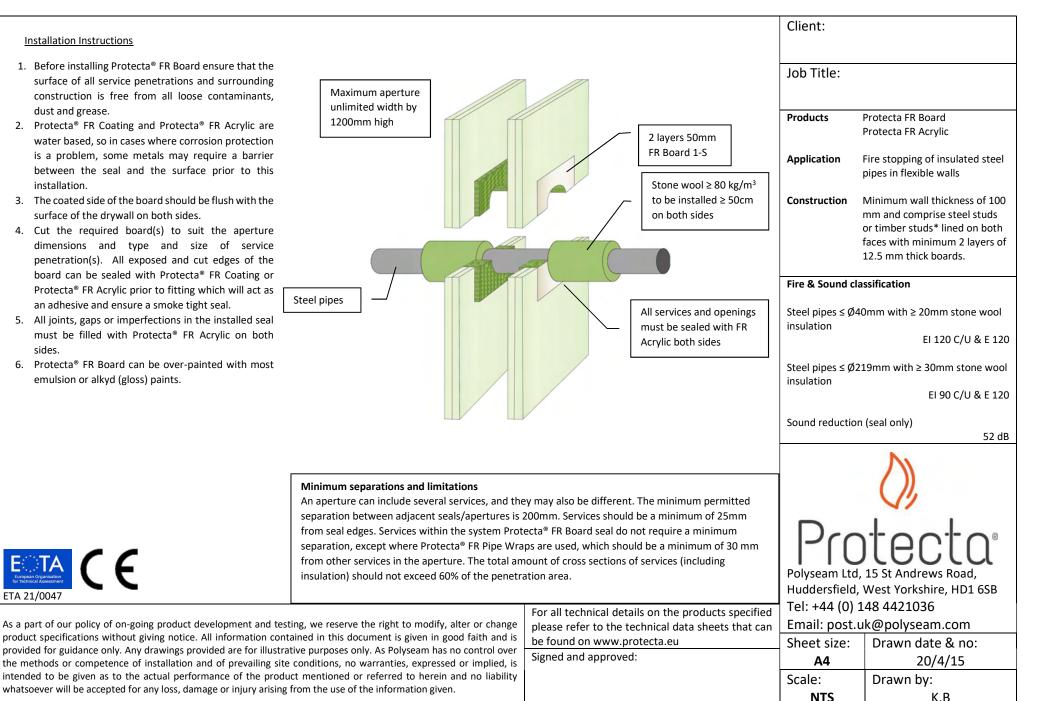
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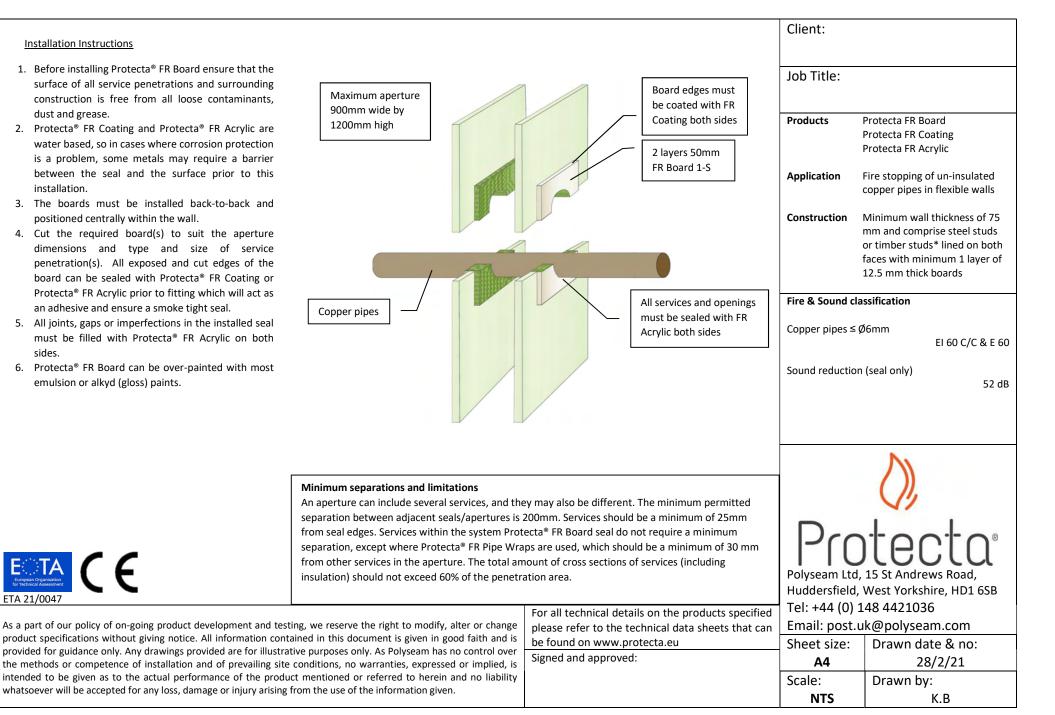
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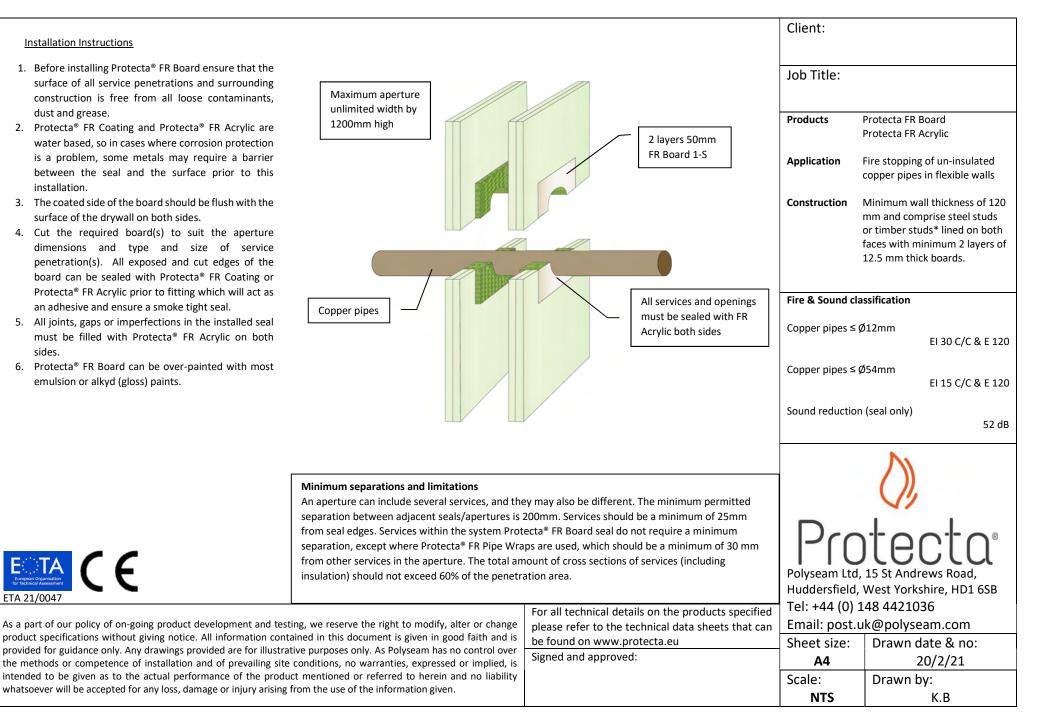
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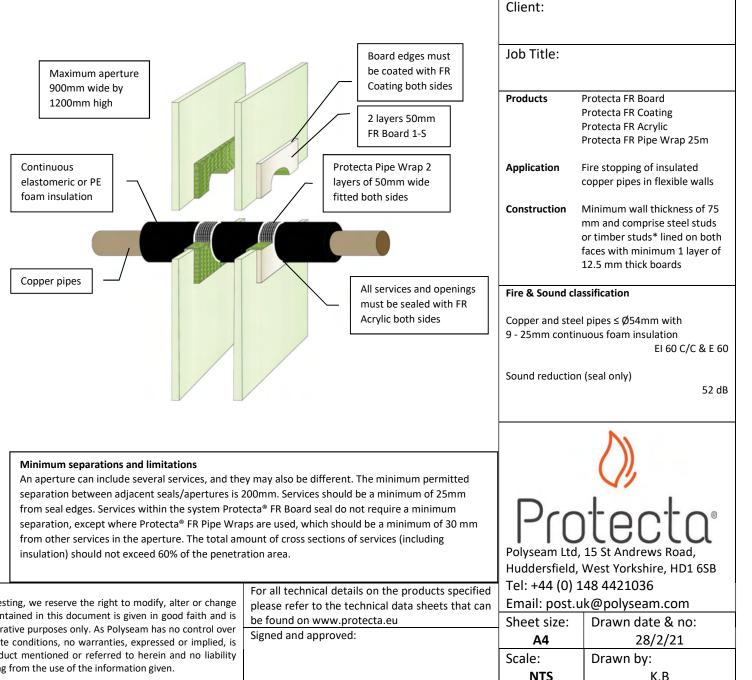
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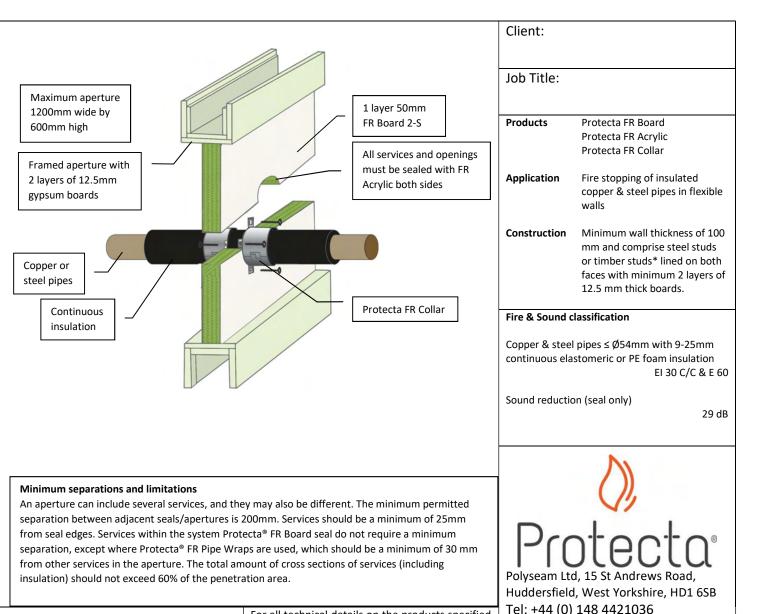
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- All joints, gaps or imperfections in the installed seal must be filled with Protecta[®] FR Acrylic on both sides.
- Insulated pipes must be secured with Protecta FR Collar ≤ Ø110mm and 50mm high on both sides, fixed with 50mm pigtail screws.
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be found on www.protecta.eu
Signed and approved:

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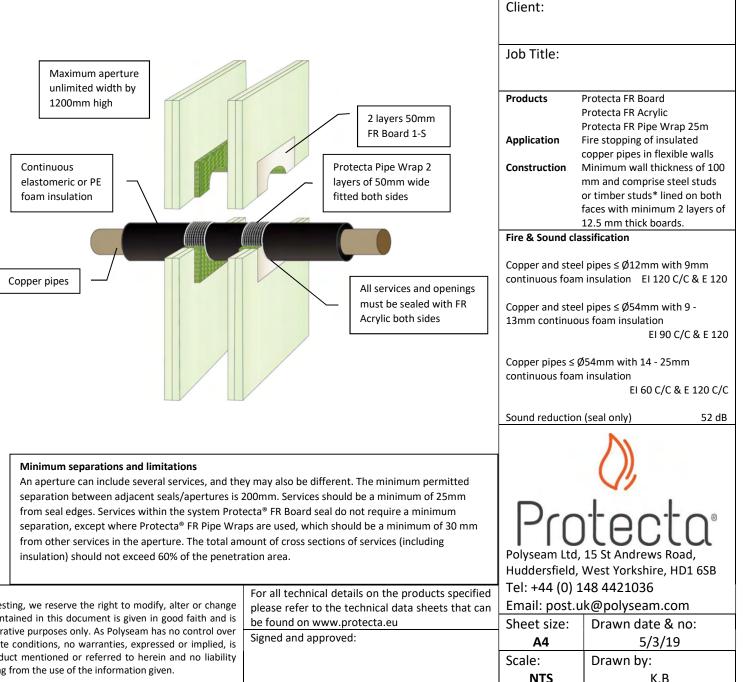
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- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of the 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.
- 5. Protecta[®] FR Board can be over-painted with most emulsion or alkyd (gloss) paints.





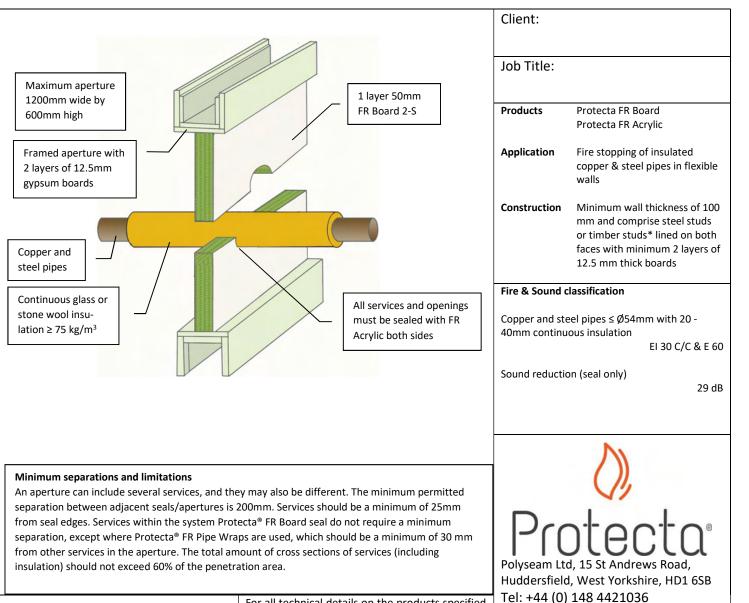
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Client: Installation Instructions Board edges must 1. Before installing Protecta® FR Board ensure that the Job Title: be coated with FR surface of all service penetrations and surrounding Coating both sides Maximum aperture construction is free from all loose contaminants, 900mm wide by dust and grease. Products Protecta FR Board 2 layers 50mm 1200mm high 2. The boards must be installed back-to-back and Protecta FR Coating FR Board 1-S positioned centrally within the wall. Protecta FR Acrylic 3. Cut the required board(s) to suit the aperture Application Fire stopping of insulated Continuous glass or dimensions and type and size of service copper and steel pipes in stone wool insulation penetration(s). All exposed and cut edges of the flexible walls ≥ 75 kg/m³ board can be sealed with Protecta[®] FR Coating or Construction Minimum wall thickness of 75 mm and comprise steel studs Protecta[®] FR Acrylic prior to fitting which will act as or timber studs* lined on both an adhesive and ensure a smoke tight seal. faces with minimum 1 layer of 4. All joints, gaps or imperfections in the installed seal 12.5 mm thick boards must be filled with Protecta® FR Acrylic on both sides. Copper or Fire & Sound classification 5. Protecta[®] FR Board can be over-painted with most steel pipes emulsion or alkyd (gloss) paints. All services and openings Copper and steel pipes ≤ 015 mm with 20mm must be sealed with FR EI 60 C/C & E 60 continuous insulation Acrylic both sides Copper and steel pipes ≤ 054 mm with 20 -30mm continuous insulation EI 45 C/C & E 60 Copper and steel pipes ≤ 0.000 Copper with 40mm continuous insulation EI 60 C/C & 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm ECTA C C from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road, insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0047 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 28/2/21 A4 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 Scale: Drawn by:

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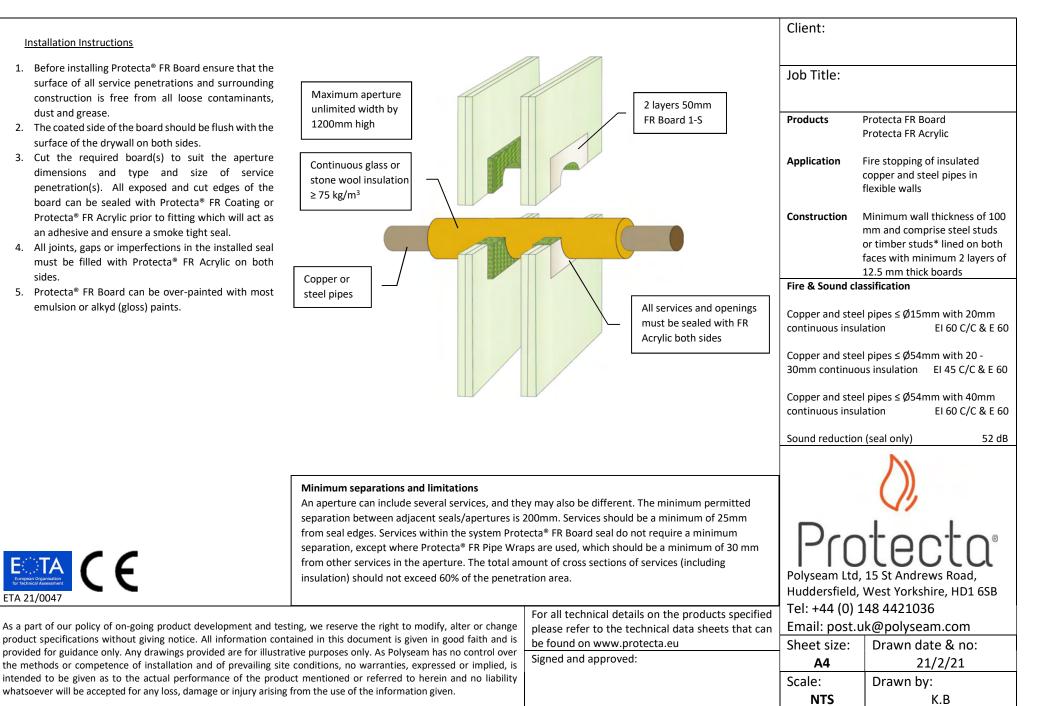
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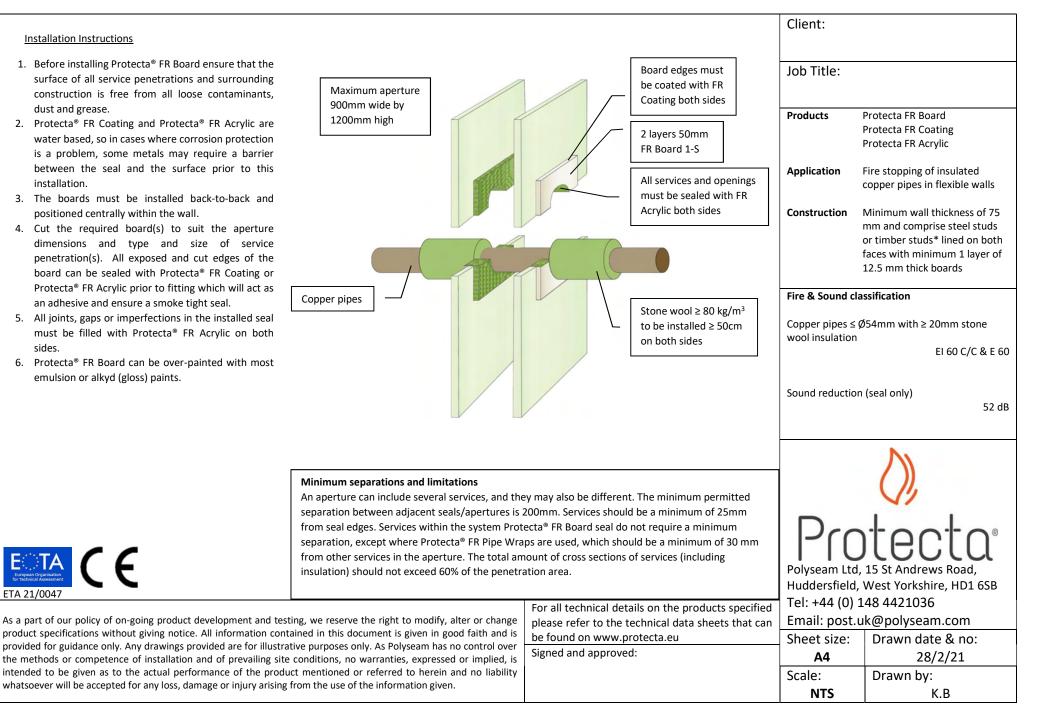




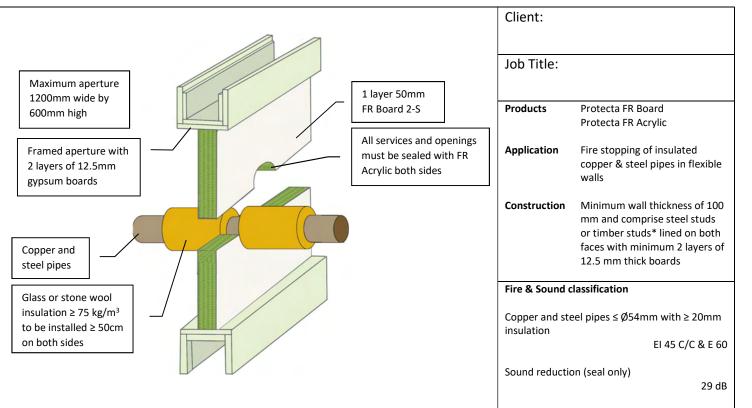
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- 3. The boards must be installed back-to-back and positioned centrally within the wall.
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Minimum separations and limitations

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Polyseam Ltd, 15 St Andrews Road,

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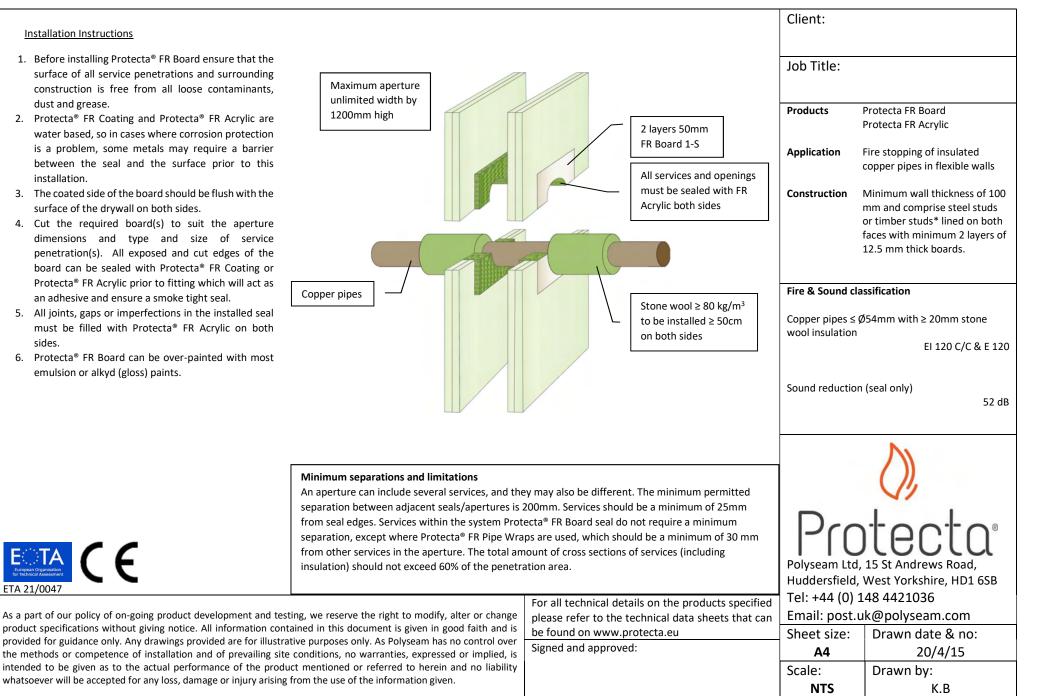
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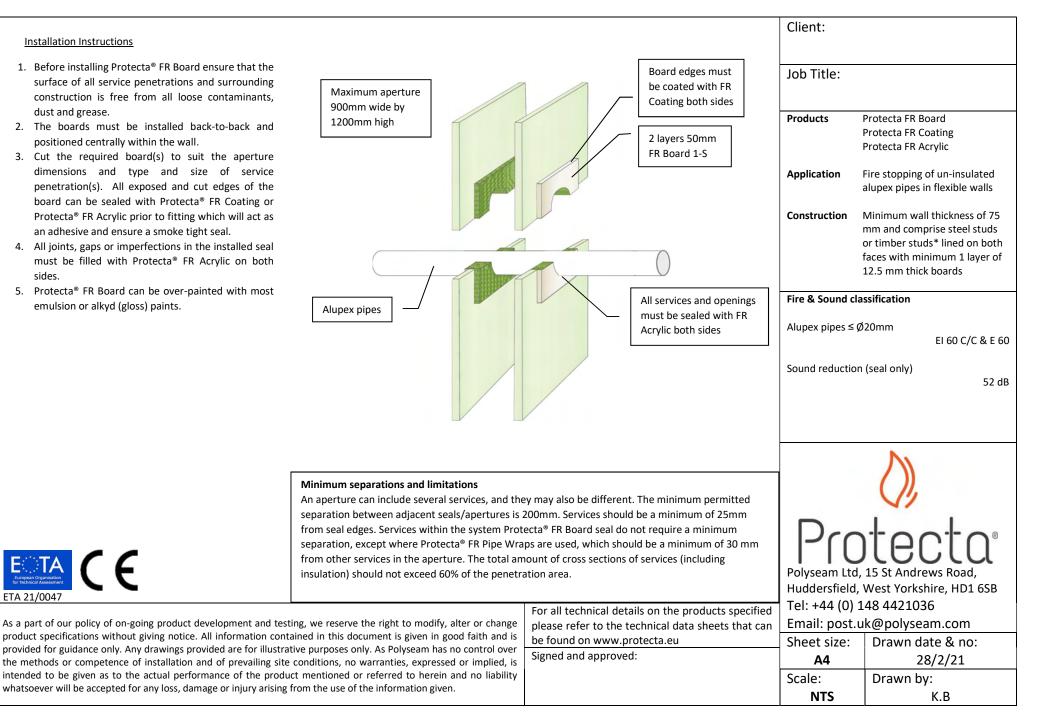
Huddersfield, West Yorkshire, HD1 6SB

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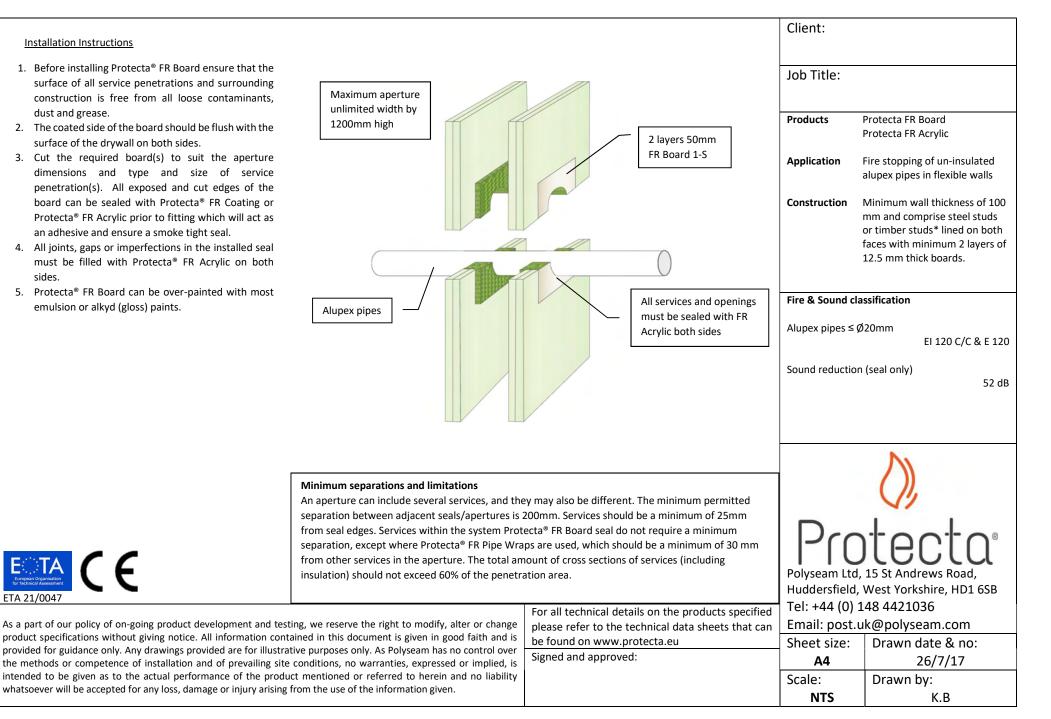




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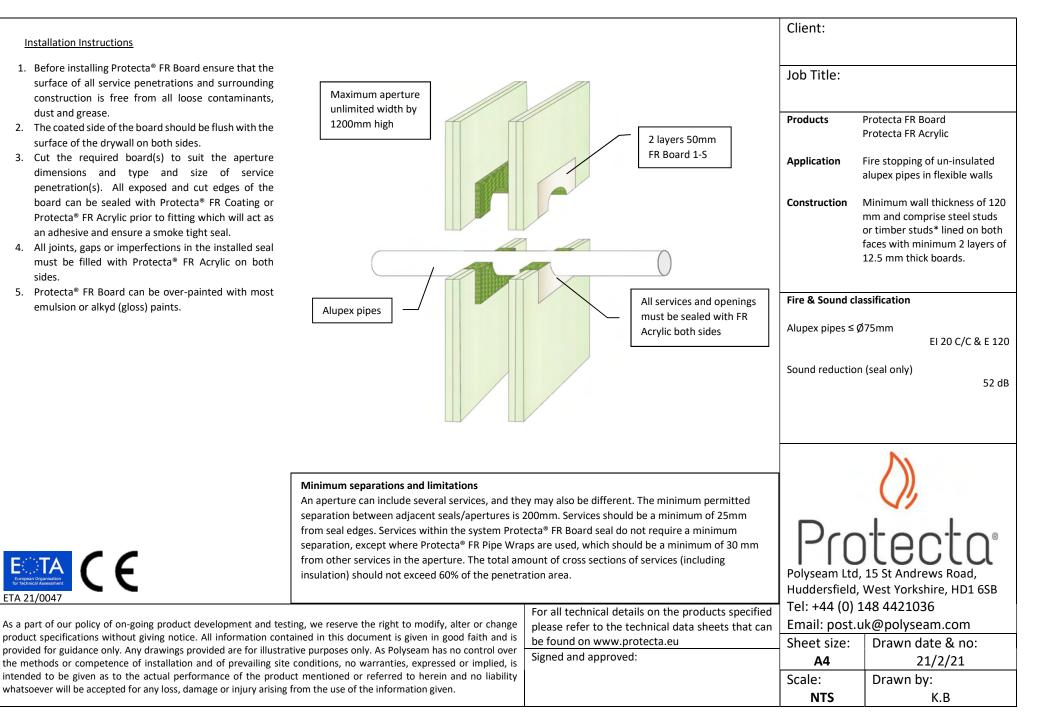
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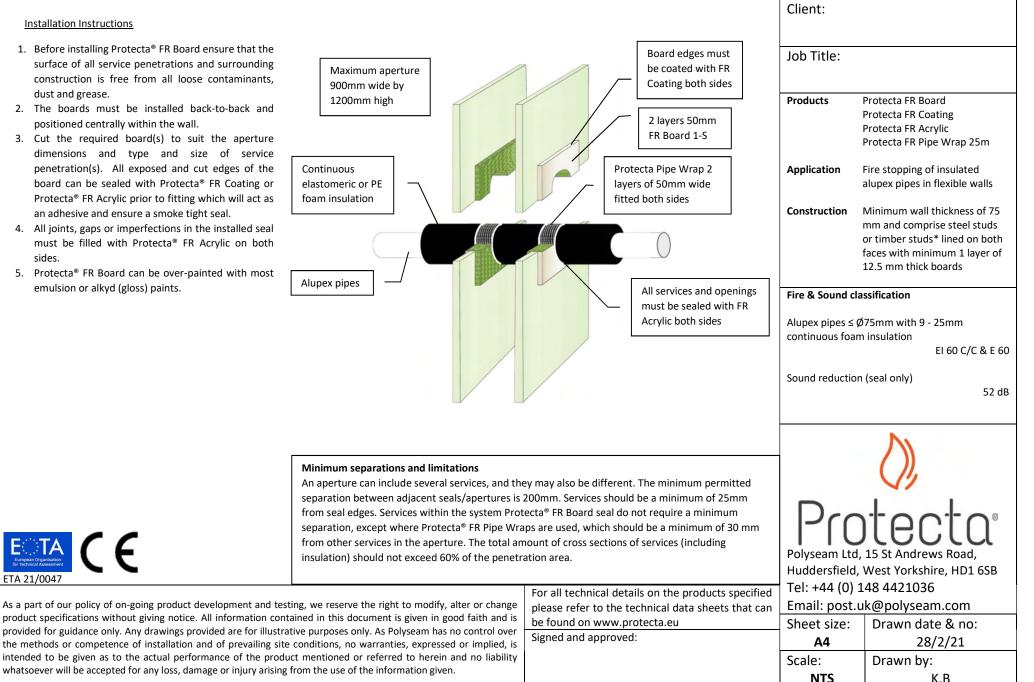
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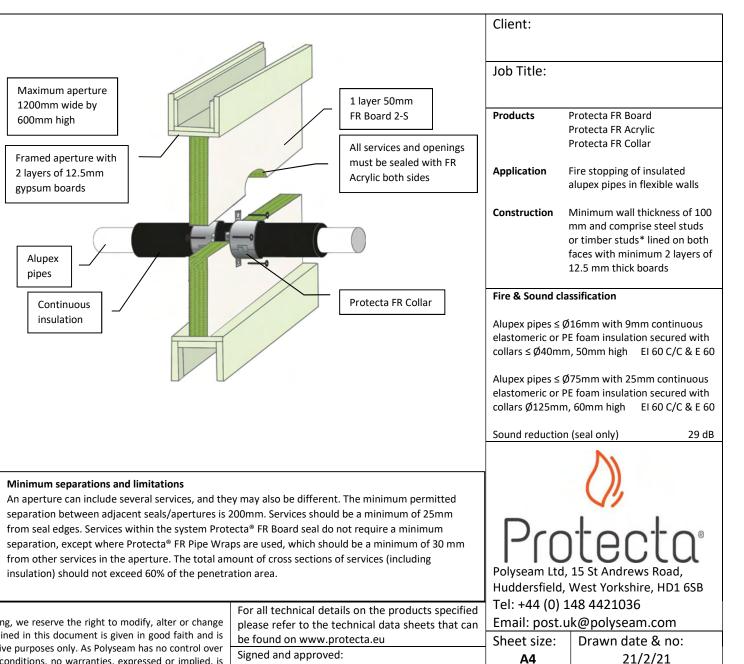


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- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 5. Insulated pipes must be secured with Protecta FR Collar on both sides, fixed with 50mm pigtail screws.
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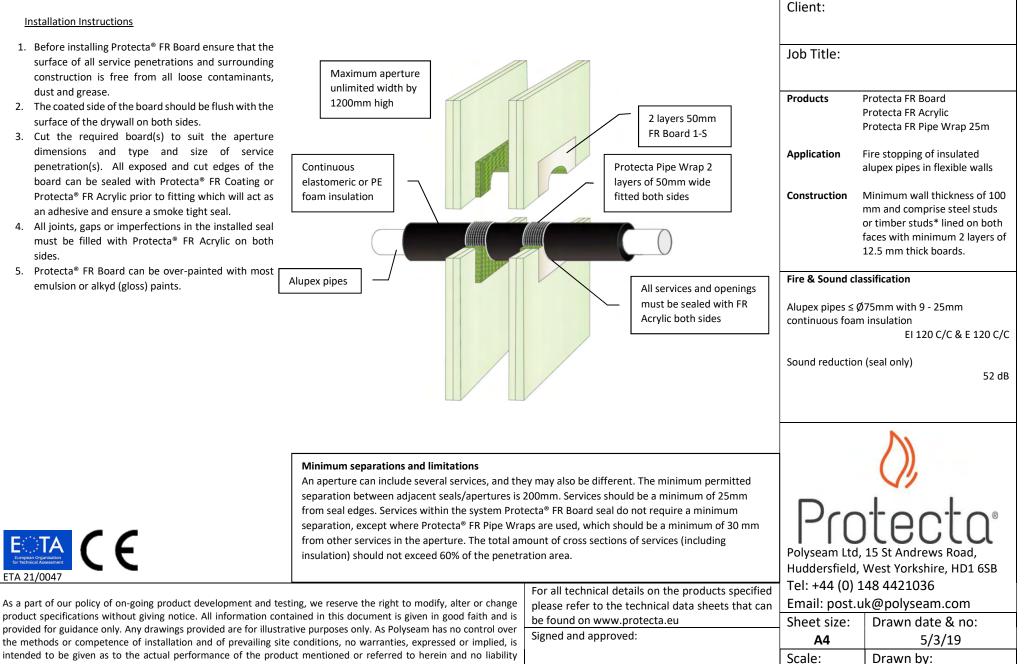
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Client: Installation Instructions Board edges must 1. Before installing Protecta® FR Board ensure that the Job Title: be coated with FR surface of all service penetrations and surrounding Coating both sides Maximum aperture construction is free from all loose contaminants, 900mm wide by dust and grease. Products Protecta FR Board 1200mm high 2 layers 50mm 2. The boards must be installed back-to-back and Protecta FR Coating FR Board 1-S positioned centrally within the wall. Protecta FR Acrylic 3. Cut the required board(s) to suit the aperture Continuous glass or dimensions and type and size of service Application Fire stopping of insulated stone wool insulation penetration(s). All exposed and cut edges of the alupex pipes in flexible walls ≥ 75 kg/m³ board can be sealed with Protecta[®] FR Coating or Minimum wall thickness of 75 Protecta[®] FR Acrylic prior to fitting which will act as Construction mm and comprise steel studs an adhesive and ensure a smoke tight seal. or timber studs* lined on both 4. All joints, gaps or imperfections in the installed seal faces with minimum 1 layer of must be filled with Protecta® FR Acrylic on both 12.5 mm thick boards sides. Alupex 5. Protecta[®] FR Board can be over-painted with most pipes emulsion or alkyd (gloss) paints. All services and openings Fire & Sound classification must be sealed with FR Acrylic both sides Alupex pipes \leq Ø75mm with 25 - 60mm continuous insulation EI 60 C/C & 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm European Organisation for Technical Assessment from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road. insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0047 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 28/2/21 A4 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 Scale: Drawn by:

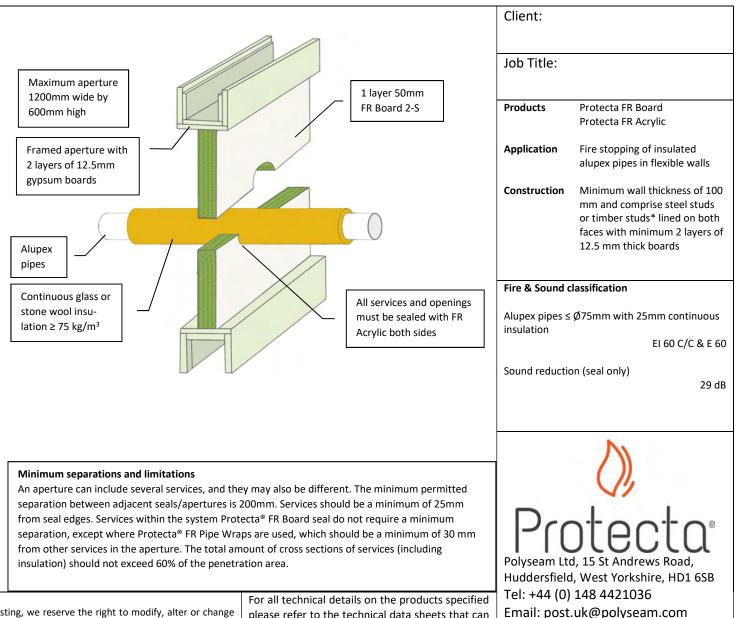
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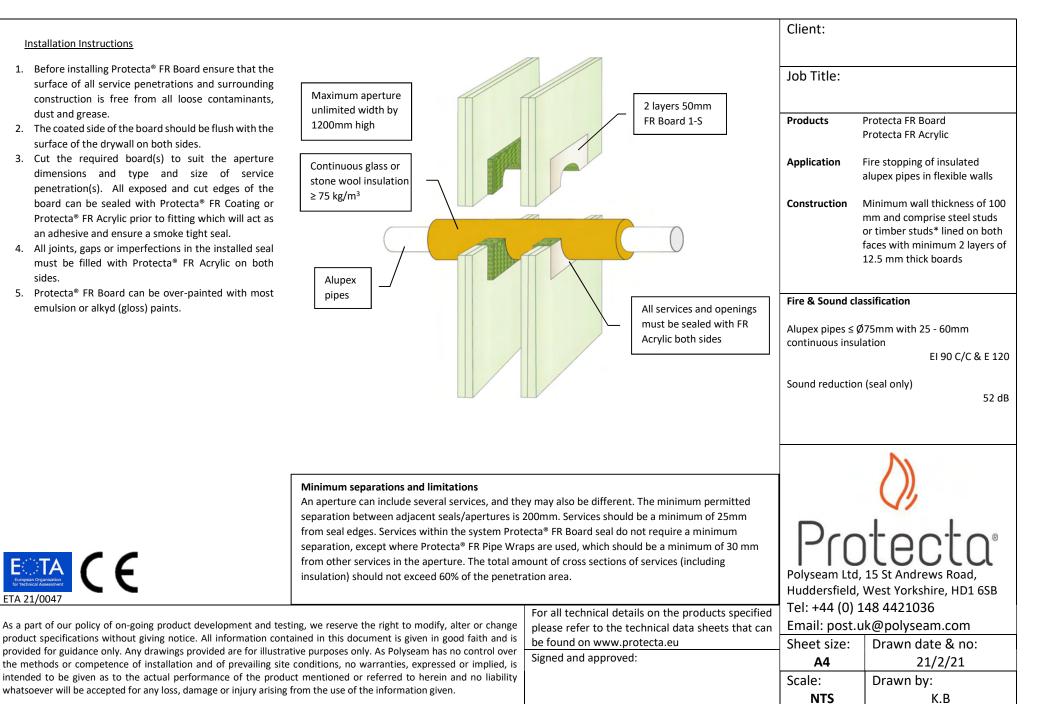
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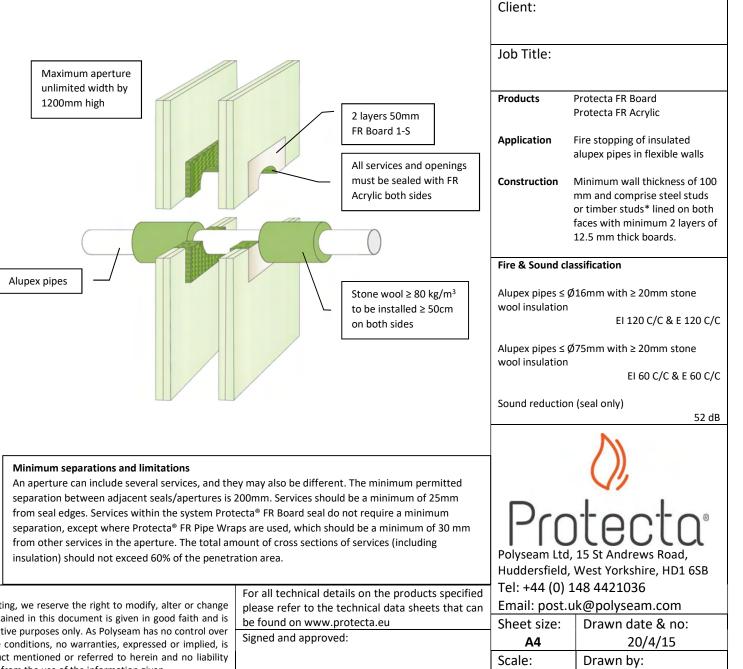
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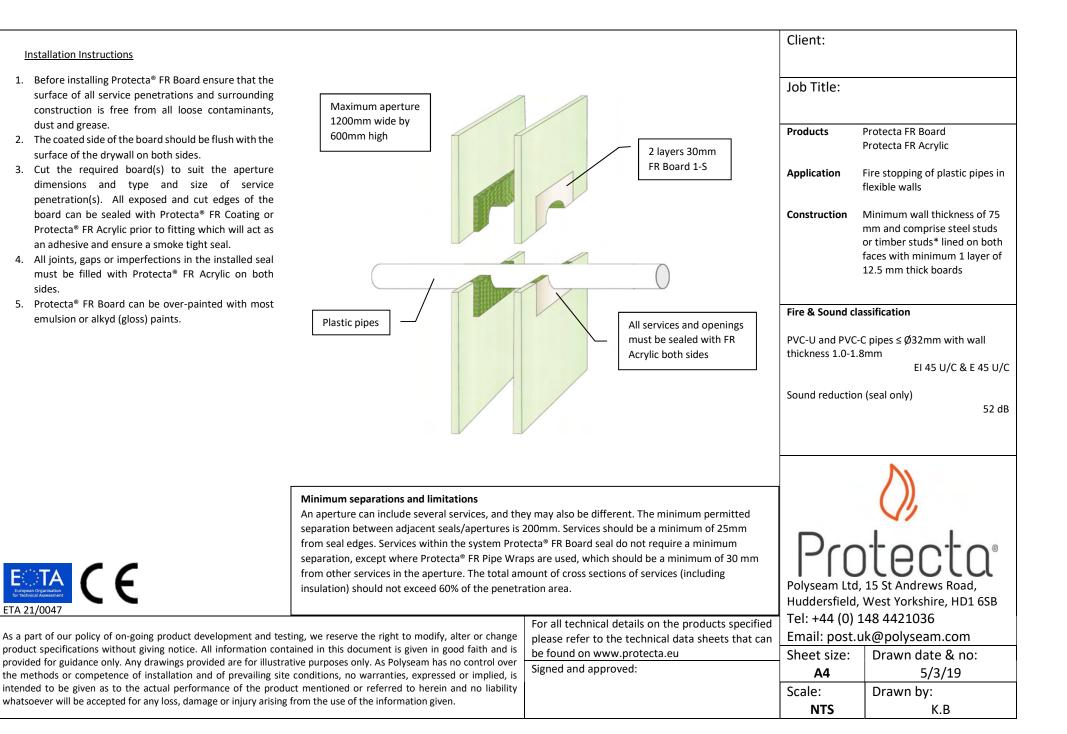




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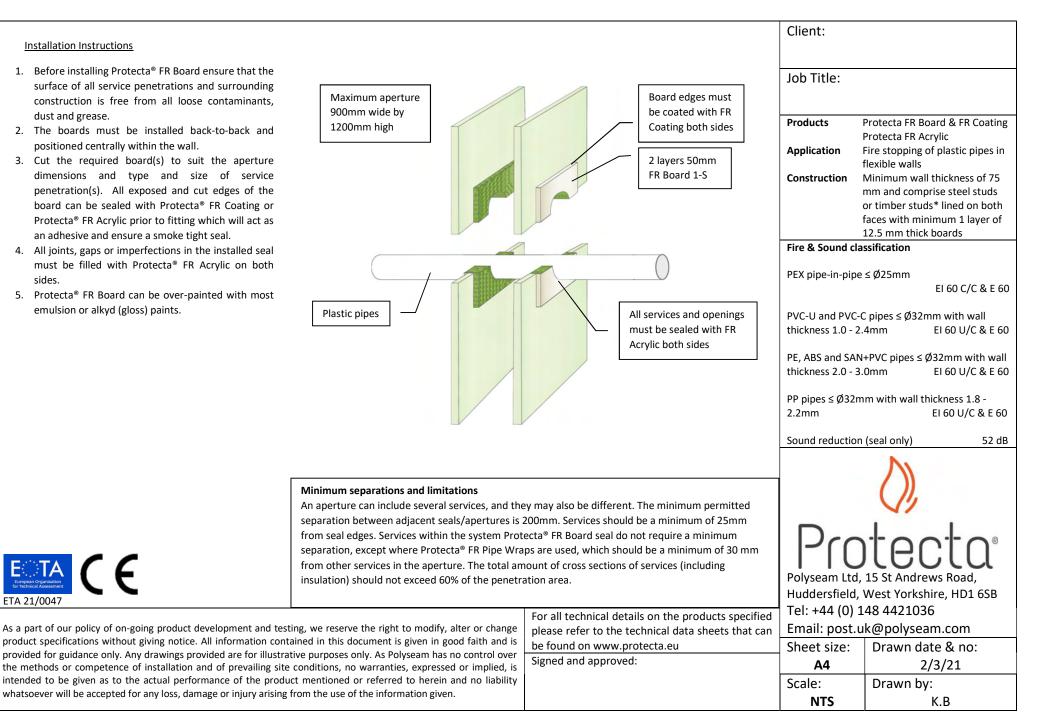
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- 3. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta[®] FR Coating or Protecta[®] FR Acrylic prior to fitting which will act as 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.

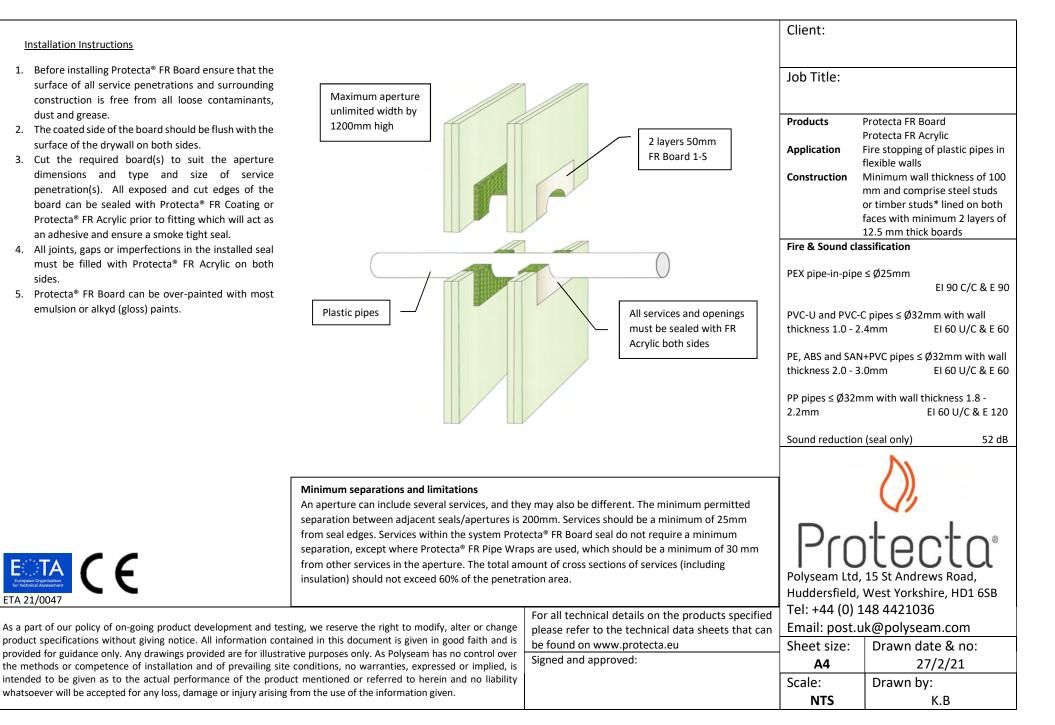




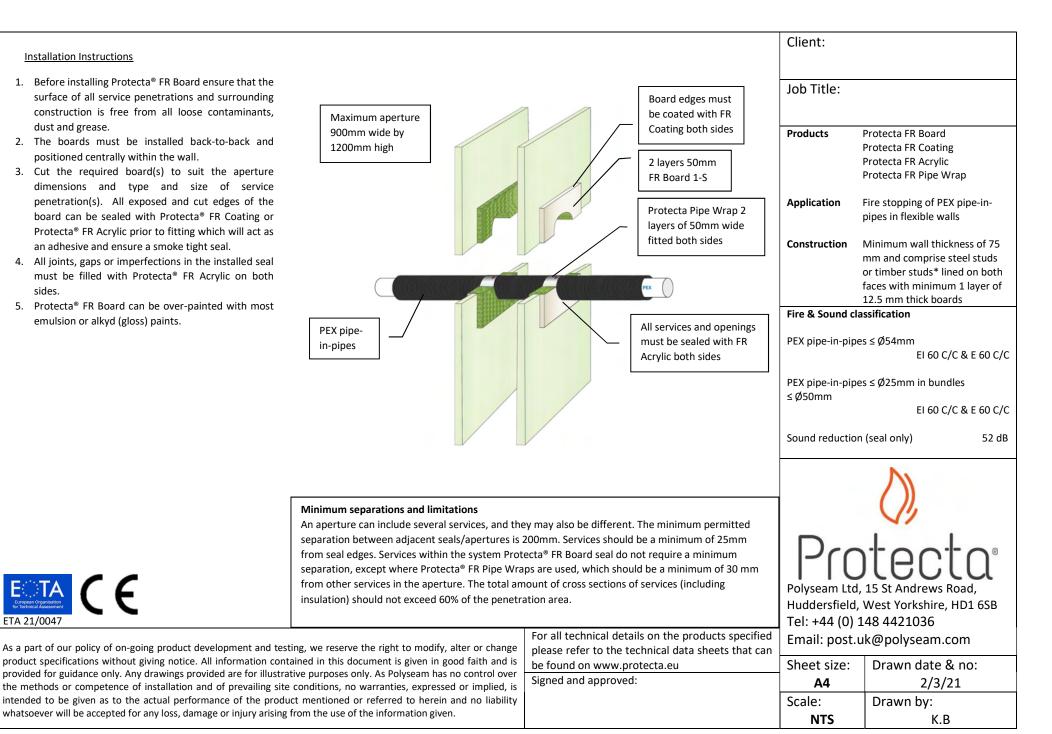
ECTA C C

ETA 21/0047

- 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.
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- 5. Protecta[®] FR Board can be over-painted with most emulsion or alkyd (gloss) paints.

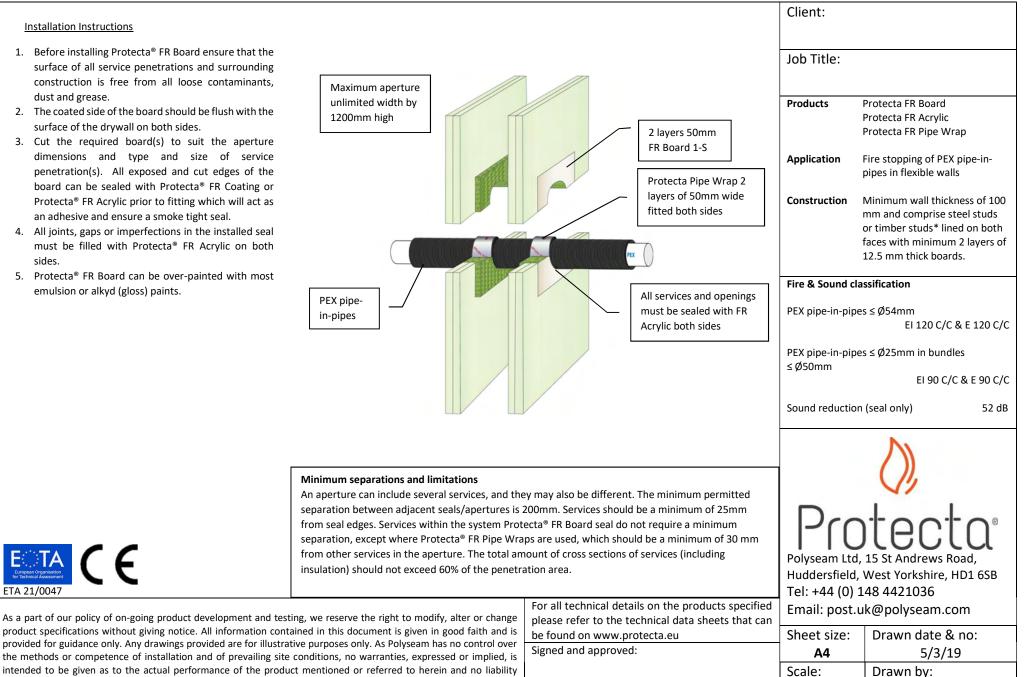




ECTA (F

ETA 21/0047

- 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.



whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

K.B

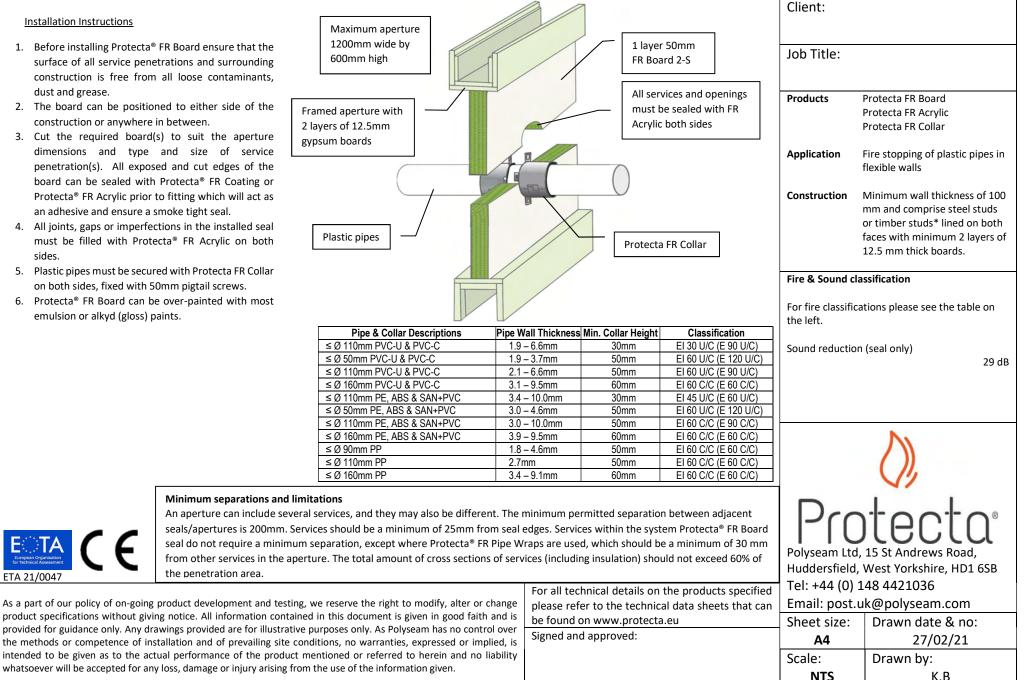
- 1. Before installing Protecta[®] FR Board ensu surface of all service penetrations and su construction is free from all loose con dust and grease.
- 2. The boards must be installed back-topositioned centrally within the wall.
- 3. Cut the required board(s) to suit the dimensions and type and size o penetration(s). All exposed and cut ed board can be sealed with Protecta® FR Protecta® FR Acrylic prior to fitting which an adhesive and ensure a smoke tight sea
- 4. All joints, gaps or imperfections in the ins must be filled with Protecta® FR Acryli sides.
- 5. Protecta® FR Board can be over-painted emulsion or alkyd (gloss) paints.



 Installation Instructions 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 must be installed back-to-back and positioned centrally within the wall. Cut the required board(s) to suit the aperture dimensions and two and size of somions 	Maximum aperture 900mm wide by 1200mm high			be coat Coating 2 layers FR Boar Protect			Protecta FR Board Protecta FR Coating Protecta FR Acrylic Protecta FR Pipe Wrap 25m
 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 	Plastic pipes			must b	vices and openings be sealed with FR both sides	Construction	Fire stopping of plastic pipes in flexible walls 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
emulsion or alkyd (gloss) paints.						Fire & Sound cla	ssification
	Services	Pipe Wall Thio	ckness FR Pipe	Wrap	Classification		
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	≤ Ø 40mm PVC-U & PVC-C ≤ Ø 40mm PE, ABS & SAN+PVC ≤ Ø 40mm PP	1.9 – 3.0mr 2.4 – 3.7mr 1.8 – 5.5mr	m 50 x 1.8mm (1 m 50 x 1.8mm (1	layer) layer)	EI 60 U/U (E 60 U/U) EI 60 U/U (E 60 U/U) EI 60 U/U (E 60 U/U)	For fire classificate the left.	itions please see the table on
200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do	≤ Ø 110mm PVC-U & PVC-C ≤ Ø 110mm PE, ABS & SAN+PVC	2.7 – 6.6mr 4.2 – 10.0m	m 50 x 3.6mm (2 nm 50 x 3.6mm (2	layers)	EI 60 U/C (E 60 U/C) EI 60 U/C (E 60 U/C)	Sound reduction	(seal only) 52 dB
not require a minimum separation, except where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm from other services in the aperture. The total amount of cross	≤ Ø 110mm PP ≤ Ø 125mm PVC-U & PVC-C ≤ Ø 125mm PE, ABS & SAN+PVC	2.7 – 15.1n 3.7 – 7.4mr 4.8 – 12.0m	m 50 x 5.4mm (3 nm 50 x 5.4mm (3	layers) layers)	EI 60 U/U (E 60 U/U) EI 60 U/C (E 60 U/C) EI 60 U/C (E 60 U/C)		
sections of services should not exceed 60% of the penetration area.	≤ Ø 125mm PP ≤ Ø 160mm PVC-U & PVC-C ≤ Ø 160mm PE, ABS & SAN+PVC ≤ Ø 160mm PP	3.1 – 17.1n 4.0 – 9.5mr 4.9 – 14.6n 4.9 – 21.9n	m 50 x 10.8mm (nm 50 x 10.8mm (6 layers) 6 layers)	EI 60 U/C (E 60 U/C) EI 60 U/C (E 60 U/C) EI 60 U/C (E 60 U/C) EI 60 U/C (E 60 U/C)		\wedge
	≤ Ø 1001111 PP ≤ Ø 200mm PVC-U & PVC-C ≤ Ø 200mm PE, ABS & SAN+PVC ≤ Ø 200mm PP	4.9 – 11.9n 6.2 – 18.2n	nm 50 x 10.8mm (nm 50 x 10.8mm (6 layers) 6 layers)	EI 60 U/C (E 60 U/C) EI 60 C/C (E 60 C/C) EI 60 C/C (E 60 C/C)	_	V
	≤ Ø 315mm PVC-U & PVC-C ≤ Ø 315mm PE, ABS & SAN+PVC ≤ Ø 315mm PP	4.9 – 18.2n 7.7 – 12.1n 18.7mm 28.6mm	nm 50 x 18.0mm (50 x 18.0mm (50 x 18.0mm (10 layers) 10 layers) 10 layers)	EI 60 C/C (E 60 C/C) EI 60 C/C (E 60 C/C)		tecta
ETA 21/0047	≤ Ø 400mm PVC-U & PVC-C ≤ Ø 400mm PE, ABS & SAN+PVC	9.8 – 15.3n 23.7mm	50 x 28.8mm (16 layers)	EI 60 C/C (E 60 C/C) EI 60 C/C (E 60 C/C)		15 St Andrews Road, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and testing, product specifications without giving notice. All information contained	o	•		e technica	the products specified al data sheets that can		ik@polyseam.com
provided for guidance only. Any drawings provided are for illustrative p the methods or competence of installation and of prevailing site com	ditions, no warranties, expressed or in	mplied, is	Signed and appro		iicu	A4	2/3/21
intended to be given as to the actual performance of the product m whatsoever will be accepted for any loss, damage or injury arising from		o liability				Scale: NTS	Drawn by: K.B

ETA 21/0047

- 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 Collar on both sides, fixed with 50mm pigtail screws.
- 6. Protecta[®] FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



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

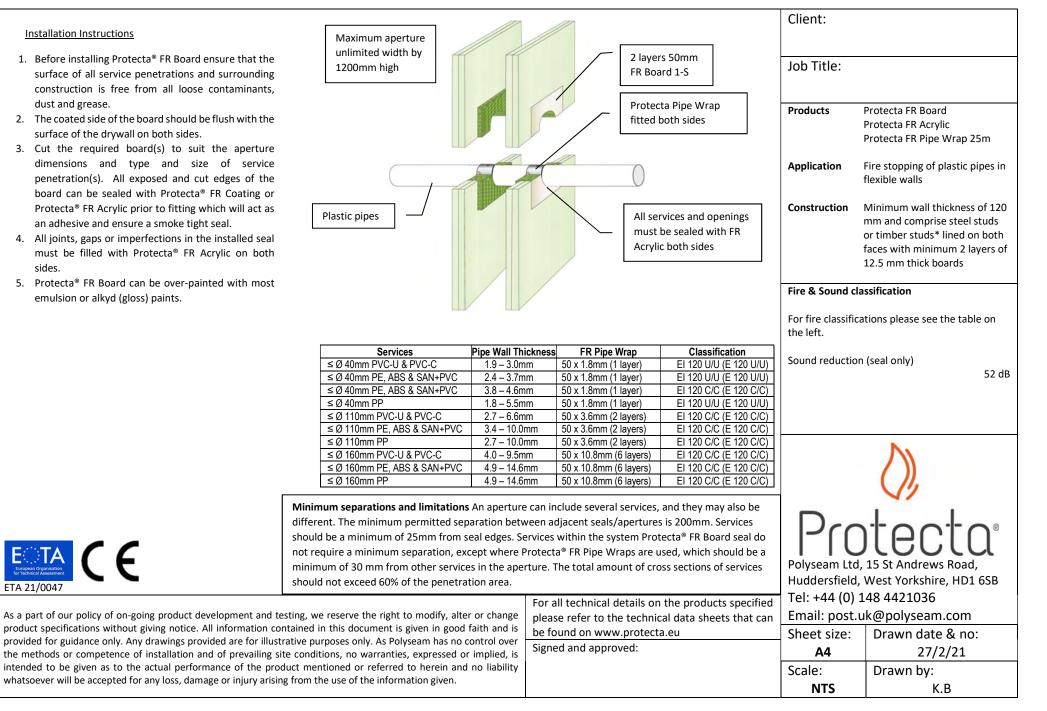
Minimum separations and limitations



						Client:	
Installation Instructions	Maximum aperture						
1. Before installing Protecta [®] FR Board ensure that the	unlimited width by			2 layers	50mm		
surface of all service penetrations and surrounding	1200mm high			FR Boar		Job Title:	
construction is free from all loose contaminants,							
dust and grease.				Dratast			
2. The coated side of the board should be flush with the					a Pipe Wrap	Products	Protecta FR Board
				fitted bo	oth sides		Protecta FR Acrylic
surface of the drywall on both sides.							Protecta FR Pipe Wrap 25m
3. Cut the required board(s) to suit the aperture							
dimensions and type and size of service				\cap		Application	Fire stopping of plastic pipes in
penetration(s). All exposed and cut edges of the		111-2					flexible walls
board can be sealed with Protecta® FR Coating or	/						
Protecta [®] FR Acrylic prior to fitting which will act as	Plastic pipes			All serv	vices and openings	Construction	Minimum wall thickness of 100
an adhesive and ensure a smoke tight seal.					e sealed with FR		mm and comprise steel studs
4. All joints, gaps or imperfections in the installed seal					both sides		or timber studs* lined on both faces with minimum 2 layers of
must be filled with Protecta® FR Acrylic on both				/ ter yite	both sides		12.5 mm thick boards
sides.							12.5 mm thick boards
5. Protecta [®] FR Board can be over-painted with most						Fire & Sound cla	ssification
emulsion or alkyd (gloss) paints.							issification
	Consistent			Nue a	Oleasification	For fire classific:	ations please see the table on
Minimum separations and limitations	<u>Services</u> ≤ Ø 40mm PVC-U & PVC-C	Pipe Wall Thi 1.9 – 3.0m			Classification EI 120 U/U (E 120 U/U)	the left.	tions please see the table on
An aperture can include several services, and they may also be	$\leq \emptyset$ 40mm PE, ABS & SAN+PVC	2.4 – 3.7m			EI 120 0/0 (E 120 0/0) EI 120 U/U (E 120 U/U)		
different. The minimum permitted separation between	$\leq \emptyset$ 40mm PP	1.8 – 5.5m			EI 120 U/U (E 120 U/U)	Sound reduction	n (seal only)
adjacent seals/apertures is 200mm. Services should be a	≤ Ø 110mm PVC-U & PVC-C	2.7 – 6.6m		, ,	EI 90 U/C (E 120 U/C)		52 dB
minimum of 25mm from seal edges. Services within the system	≤ Ø 110mm PE, ABS & SAN+PVC	4.2 – 10.0r	mm 50 x 3.6mm (2	layers)	EI 90 U/C (E 120 U/C)		
Protecta [®] FR Board seal do not require a minimum separation,	≤ Ø 110mm PP	2.7 – 15.1r			EI 90 U/U (E 90 U/U)		
except where Protecta [®] FR Pipe Wraps are used, which should	≤ Ø 125mm PVC-U & PVC-C	3.7 – 7.4m			EI 90 U/C (E 120 U/C)		
be a minimum of 30 mm from other services in the aperture.	$\leq \emptyset$ 125mm PE, ABS & SAN+PVC $\leq \emptyset$ 125mm PP	4.8 - 12.0r			EI 90 U/C (E 120 U/C)		
The total amount of cross sections of services should not	≤ Ø 125mm PP ≤ Ø 160mm PVC-U & PVC-C	3.1 – 17.1r 4.0 – 9.5m		, ,	EI 90 U/C (E 120 U/C) EI 60 U/C (E 90 U/C)		N.
exceed 60% of the penetration area.	$\leq \emptyset$ 160mm PE, ABS & SAN+PVC	4.9 – 14.6r			EI 60 U/C (E 90 U/C)		
	$\leq \emptyset$ 160mm PP	4.9 – 21.9r			EI 60 U/C (E 60 U/C)		()
	≤ Ø 200mm PVC-U & PVC-C	4.9 – 11.9r			EI 90 C/C (E 90 C/C)		<u></u>
	≤ Ø 200mm PE, ABS & SAN+PVC	6.2 – 18.2r			EI 90 C/C (E 90 C/C)		
	≤ Ø 200mm PP	4.9 – 18.2r		, , ,	EI 90 C/C (E 90 C/C)		tecta
	≤ Ø 315mm PVC-U & PVC-C	7.7 – 12.1r		1 /	EI 90 C/C (E 90 C/C)	J	
	$\leq \emptyset$ 315mm PE, ABS & SAN+PVC $\leq \emptyset$ 315mm PP	18.7mm 28.6mm	50 x 18.0mm (50 x 18.0mm (EI 60 C/C (E 60 C/C) EI 60 C/C (E 60 C/C)		
	≤ Ø 315mm PP ≤ Ø 400mm PVC-U & PVC-C	9.8 – 15.3r			EI 90 C/C (E 90 C/C)	Polyseam Ltd	15 St Andrews Road,
TO RECORDER ASSOCIATION	$\leq \emptyset$ 400mm PE, ABS & SAN+PVC	23.7mm	50 x 28.8mm (EI 60 C/C (E 60 C/C)		West Yorkshire, HD1 6SB
ETA 21/0047					· · ·		148 4421036
					the products specified		
As a part of our policy of on-going product development and testing, without giving potice. All information contained		-			al data sheets that can	Email: post.u	uk@polyseam.com
product specifications without giving notice. All information contained provided for guidance only. Any drawings provided are for illustrative p	5 5		be found on www	.protecta	.eu	Sheet size:	Drawn date & no:
the methods or competence of installation and of prevailing site cond			Signed and approv	ved:		A4	27/2/21
intended to be given as to the actual performance of the product m	-					Scale:	Drawn by:
whatsoever will be accepted for any loss, damage or injury arising from		,					,
· · · · · · · · · · · · · · · · · · ·	-					NTS	K.B

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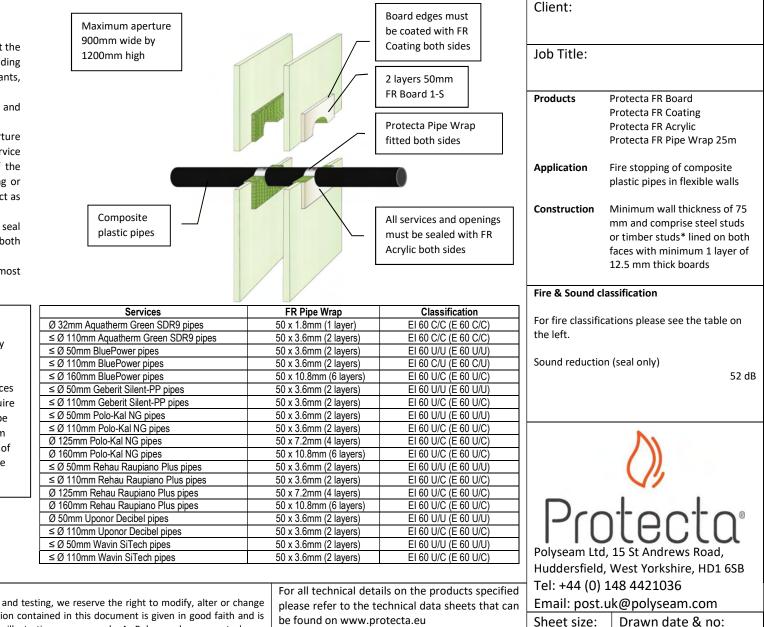


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Minimum separations and limitations	
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An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except where Protecta® FR Pipe Wraps are used, 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:

2/3/21

K.B

Drawn by:

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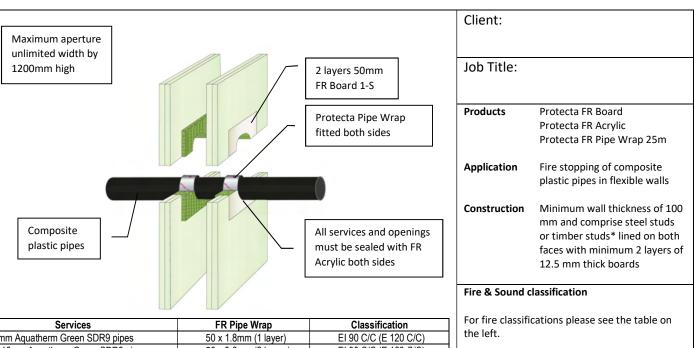
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Scale:

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An aperture can include several services, and they may also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services	
also be different. The minimum permitted separation between adjacent seals/apertures is 200mm. Services	
between adjacent seals/apertures is 200mm. Services	;
	;
should be a minimum of 25 mm from coal adapt. Comisson	;
should be a minimum of 25mm from seal edges. Services	;
within the system Protecta [®] FR Board seal do not require	;
a minimum separation, except where Protecta® FR Pipe	
Wraps are used, 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.	;

whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.



52 dB

must be filled with Protecta [®] FR Acrylic on both sides.			Acrylic both sides		12.5 mm thick boards
 Protecta[®] FR Board can be over-painted with most emulsion or alkyd (gloss) paints. 				Fire & Sound cla	ssification
Minimum separations and limitations	Services	FR Pipe Wrap	Classification		tions please see the table on
winning separations and inintations	Ø 32mm Aquatherm Green SDR9 pipes	50 x 1.8mm (1 layer)	EI 90 C/C (E 120 C/C)	the left.	
An aperture can include several services, and they may	≤ 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)	Sound reduction	
also be different. The minimum permitted separation	≤ Ø 110mm BluePower pipes	50 x 3.6mm (2 layers)	EI 90 C/U (E 90 C/U)		52 dE
between adjacent seals/apertures is 200mm. Services	≤ Ø 160mm BluePower pipes	50 x 10.8mm (6 layers)	EI 90 U/C (E 90 U/C)		
should be a minimum of 25mm from seal edges. Services	≤ Ø 50mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)		
within the system Protecta [®] FR Board seal do not require	≤ Ø 110mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)		
a minimum separation, except where Protecta [®] FR Pipe	≤ Ø 50mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)		
Wraps are used, which should be a minimum of 30 mm	≤ Ø 110mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)		
from other services in the aperture. The total amount of	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)		
cross sections of services should not exceed 60% of the	≤ Ø 50mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)		()).
penetration area.	≤ Ø 110mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)		V2
	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)		tecta
	Ø 50mm Uponor Decibel pipes	50 x 3.6mm (2 layers)	EI 90 U/U (E 90 U/U)	Jre	
	≤ Ø 110mm Uponor Decibel pipes	50 x 3.6mm (2 layers)	EI 90 U/C (E 90 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)	Polysean Llu,	15 St Anulews Road,
ETA 21/0047				Huddersfield,	West Yorkshire, HD1 6SB
				Tel: +44 (0) 1	48 4421036
As a part of our policy of on-going product development and tes	ating we receive the right to modify alter or change		tails on the products specified		
	e . e f . e	picase refer to the	technical data sheets that can	· · ·	k@polyseam.com
product specifications without giving notice. All information con	5 S		protecta.eu	Sheet size:	Drawn date & no:
provided for guidance only. Any drawings provided are for illustrative the methods or competence of installation and of prevailing sit		Noned and annrove	ed:	A4	27/2/21
intended to be given as to the actual performance of the prod					
Intended to be given as to the actual performance of the prod	•			Scale:	Drawn by:

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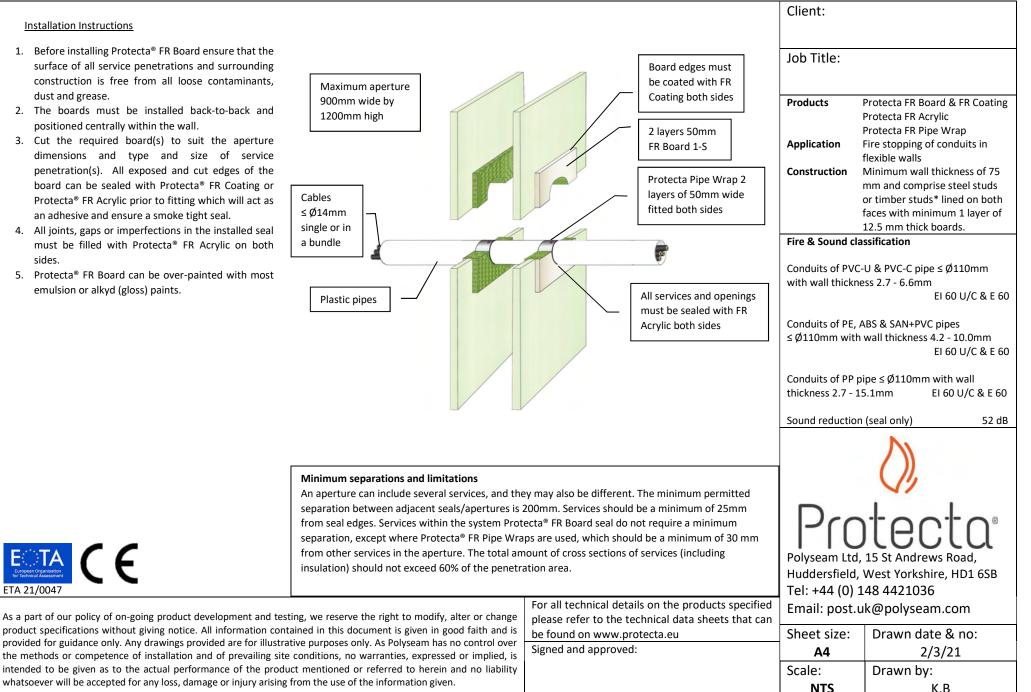
Client: Installation Instructions Job Title: 1. Before installing Protecta[®] FR Board ensure that the Board edges must surface of all service penetrations and surrounding Maximum aperture construction is free from all loose contaminants, be coated with FR Products Protecta FR Board & FR Coating 900mm wide by dust and grease. Coating both sides Protecta FR Acrvlic 1200mm high 2. The boards must be installed back-to-back and Protecta FR Pipe Wrap 25m Application Fire stopping of insulated positioned centrally within the wall. 2 layers 50mm plastic pipes in flexible walls 3. Cut the required board(s) to suit the aperture FR Board 1-S Minimum wall thickness of 75 Construction dimensions and type and size of service 9 - 50mm thick mm and comprise steel studs penetration(s). All exposed and cut edges of the continuous Protecta Pipe Wrap 50mm or timber studs* lined on both board can be sealed with Protecta[®] FR Coating or elastomeric or PE wide fitted both sides faces with minimum 1 layer of Protecta[®] FR Acrylic prior to fitting which will act as foam insulation 12.5 mm thick boards an adhesive and ensure a smoke tight seal. Fire & Sound classification 4. All joints, gaps or imperfections in the installed seal PE, ABS and SAN+PVC pipes with wall thickness must be filled with Protecta® FR Acrylic on both 3.0 - 9.5mm, $\leq \emptyset$ 68mm incl. insulation with 2 sides. layers of pipe wrap EI 60 C/C & E 60 5. Protecta[®] FR Board can be over-painted with most Plastic pipes emulsion or alkyd (gloss) paints. All services and openings PE, ABS and SAN+PVC pipes with wall thickness must be sealed with FR Acrylic both sides layers of pipe wrap EI 60 C/C & E 60 PE pipes $\leq Ø160$ mm with wall thickness 3.0 -9.5mm, and $\leq \emptyset$ 260mm incl. insulation with 10 layers of pipe wrap EI 60 C/C & E 60 PP pipes with wall thickness 1.8 - 14.6mm. $\leq \emptyset 68$ mm incl. insulation with 2 layers of pipe EI 60 C/C & E 60 wrap PP pipes with wall thickness 1.8 - 14.6mm. ≤ 0178 mm incl. insulation with 6 layers of pipe Minimum separations and limitations EI 60 C/C & E 60 wrap 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 PP pipes $\leq Ø160$ mm with wall thickness 1.8 from seal edges. Services within the system Protecta® FR Board seal do not require a minimum 14.6mm, and $\leq \emptyset$ 260mm incl. insulation with 10 separation, except where Protecta[®] FR Pipe Wraps are used, which should be a minimum of 30 mm EI 60 C/C & E 60 layers of pipe wrap from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area. Sound reduction (seal only) 52 dB Polyseam Ltd, 15 St Andrews Road, ETA 21/0047 Huddersfield, West Yorkshire, HD1 6SB For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is Sheet size: Drawn date & no: be found on www.protecta.eu provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 2/3/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

- 1. Before installing Protecta® FR Board ensu surface of all service penetrations and su construction is free from all loose condust and grease.
- 2. The coated side of the board should be flux surface of the drywall on both sides.
- 3. Cut the required board(s) to suit the dimensions and type and size o penetration(s). All exposed and cut ed board can be sealed with Protecta[®] FR Protecta® FR Acrylic prior to fitting which an adhesive and ensure a smoke tight sea
- 4. All joints, gaps or imperfections in the ins must be filled with Protecta® FR Acryli sides.

Installation Instructions			Client:	
 Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding 			Job Title:	
 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. 	Maximum aperture unlimited width by 1200mm high 9 - 50mm thick continuous elastomeric or PE foam insulation	2 layers 50mm FR Board 1-S Protecta Pipe Wrap 50mm wide fitted both sides	Application Construction	Protecta FR Board Protecta FR Acrylic Protecta FR Pipe Wrap 25m Fire stopping of insulated plastic 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 12.5 mm thick boards
 All joints, gaps or imperfections in the installed seal must be filled with Protecta[®] FR Acrylic on both 				ssification +PVC pipes with wall thickness 68mm incl. insulation with 2
sides. 5. Protecta [®] FR Board can be over-painted with most			layers of pipe wr	
emulsion or alkyd (gloss) paints.	Plastic pipes	All services and openings must be sealed with FR Acrylic both sides		+PVC pipes with wall thickness 178mm incl. insulation with 6 ap EI 60 C/C & E 60
				nm with wall thickness 3.0 - 260mm incl. insulation with 10 ap EI 60 C/C & E 60
				ll thickness 1.8 - 14.6mm, sulation with 2 layers of pipe EI 60 C/C & E 60
				ll thickness 1.8 - 14.6mm,
	Minimum separations and limitations		≤Ø178mm incl. wrap	nsulation with 6 layers of pipe EI 60 C/C & E 60
	separation between adjacent seals/apertures is from seal edges. Services within the system Prot	ps are used, which should be a minimum of 30 mm		mm with wall thickness 1.8 - 0260mm incl. insulation with 10 ap EI 60 C/C & E 60
	insulation) should not exceed 60% of the penetra		Sound reduction	(seal only) 52 dB
ETA 21/0047				15 St Andrews Road,
As a part of our policy of on-going product development and test	ing, we reserve the right to modify, alter or change	For all technical details on the products specified please refer to the technical data sheets that can	Huddersfield,	West Yorkshire, HD1 6SB
product specifications without giving notice. All information contained	ained in this document is given in good faith and is	be found on www.protecta.eu	Sheet size:	Drawn date & no:
provided for guidance only. Any drawings provided are for illustrative methods or competence of installation and of prevailing site		Signed and approved:	A4	27/02/21
intended to be given as to the actual performance of the produ whatsoever will be accepted for any loss, damage or injury arising	1		Scale:	Drawn by:
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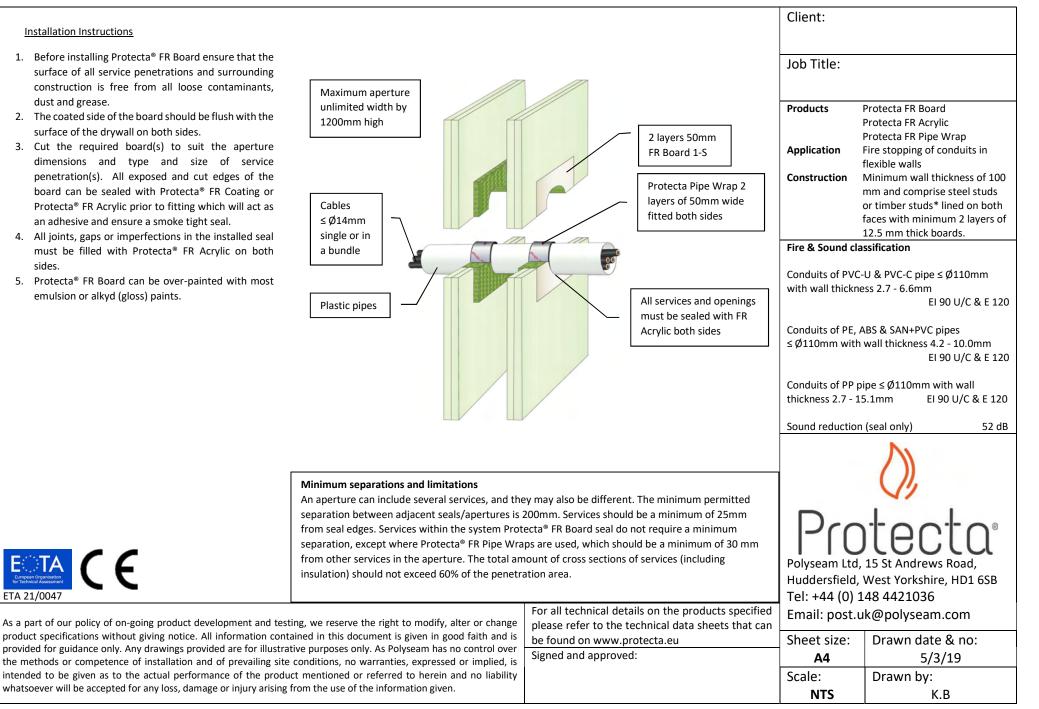
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- 1. Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards must be installed back-to-back and positioned centrally within the wall.
- 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.





- 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.
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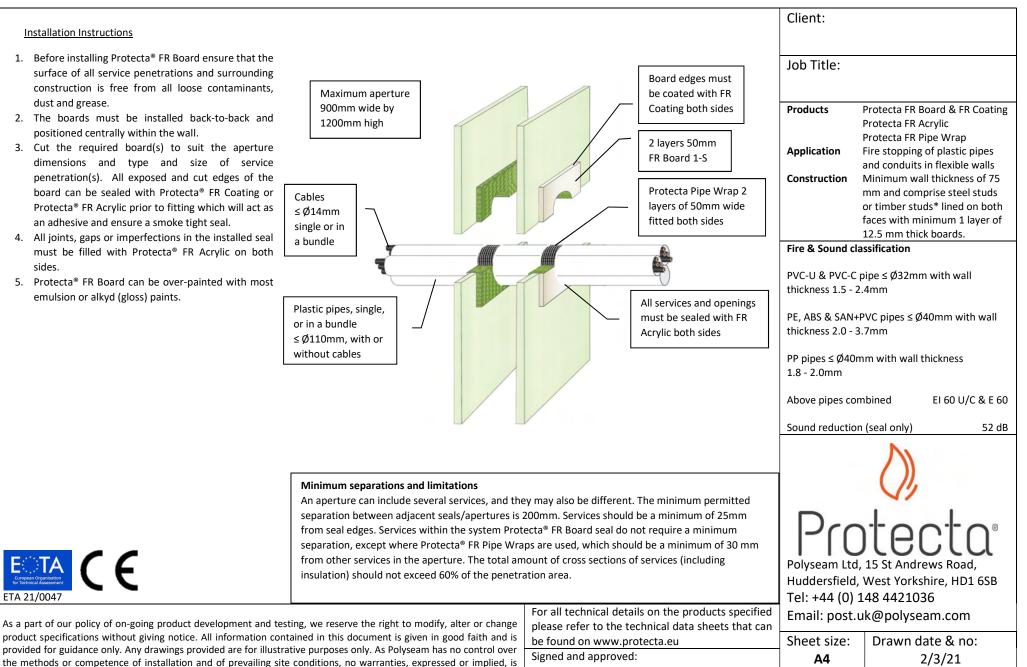




- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards must be installed back-to-back and positioned centrally within the wall.
- 3. Cut the required board(s) to 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.

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.





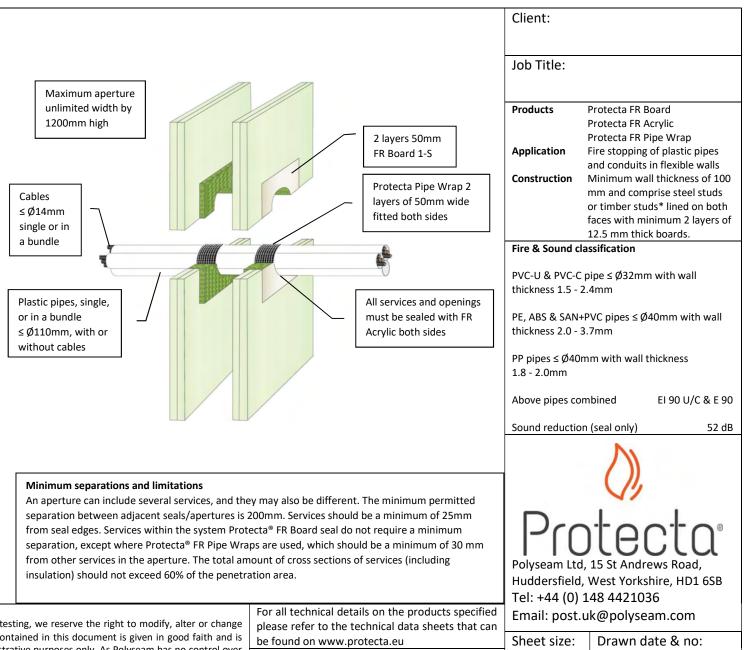
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- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The coated side of the board should be flush with the surface of 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.



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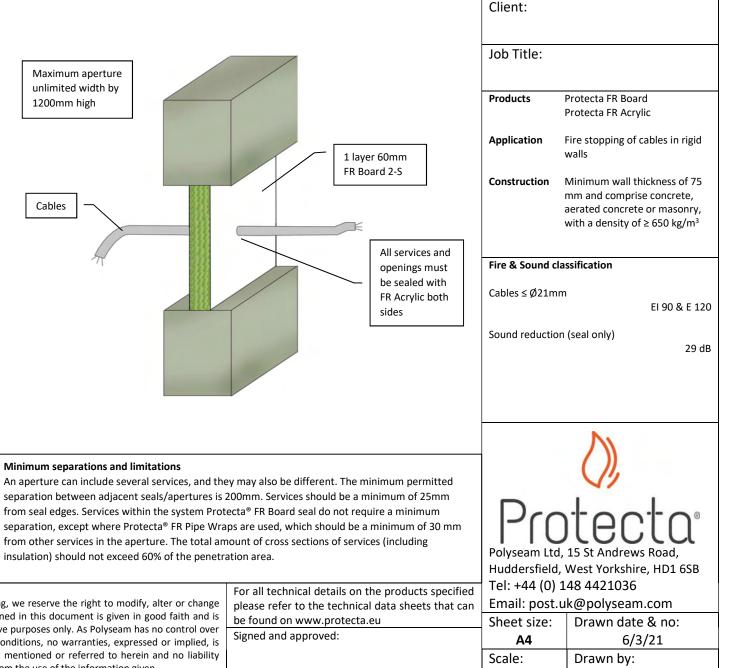
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- 1. Before installing the fire seal ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. The dampers can be fitted in the apertures either by connecting them to the ventilation ducts before the fire seal is started, or fixed in the apertures with the fire seal, and connected to the ducts afterwards. If the latter, the dampers can be friction fitted with pieces of the boards, or install the boards first and make holes to friction fit the dampers afterwards.
- 3. The blades inside the damper must be aligned horizontally.
- 4. The coated side of the board should be flush with the surface of the wall on both sides. In seals wider than 2400mm, uninterrupted separating studs will be required at 2400mm centres or less.
- 5. Cut the required boards 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.
- 6. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 7. Insulate the duct towards the fire seal with a mineral fibre mat, with or without aluminium foil. If the duct is ending in a wall then insulate on one side only

			Client:	
Installation Instructions				
 Before installing the fire seal ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose 	Maximum aperture 1500mm height x 2400mm width, or 1200mm height x unlimited width		Job Title:	
 contaminants, dust, oils and grease. 2. The dampers can be fitted in the apertures either by connecting them to the ventilation ducts before the fire seal is started, or fixed in the apertures with the fire seal, and connected to the ducts afterwards. If the latter, the dampers can be friction fitted with pieces of the boards, or install the boards first and make holes to friction fit the damper must be aligned horizontally. 	Protecta FR Damper Ventilation	2 layers 50mm FR Board 1-S All services and openings must be sealed with FR Acrylic both sides	Application Construction	Protecta FR Board Protecta FR Acrylic Protecta FR Acrylic Fire stopping of ventilation ducts 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 12.5 mm thick boards
 The coated side of the board should be flush with the surface of the wall on both sides. In seals wider than 2400mm, uninterrupted separating studs will be required at 2400mm centres or less. 	duct		Fire & Sound class ≤ Ø 400mm dam wool matt on bo	per/duct with ≥ 200mm stone
5. Cut the required boards 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.		≥ 30mm thick duct insulation ≥ 80kg/m ³ on both sides	wool matt on bo ≤ 600mm high x	nper/duct with ≥ 500mm stone th sides EI 60 & E 90 1000mm wide damper/duct one wool matt on both sides EI 120 & E 120
 All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides. Insulate the duct towards the fire seal with a mineral filled are with a with the seal with a mineral filled are w			Ũ	a 1700mm wide damper/duct one wool matt on both sides El 90 & E 90
fibre mat, with or without aluminium foil. If the duct is ending in a wall then insulate on one side only			Sound reduction	(seal only) 52 dB
	Minimum separations and limitations An aperture can include several services, and the	ey may also be different. The minimum permitted		$\langle \rangle$
	separation between adjacent seals/apertures is from seal edges. Services within the system Prot	200mm. Services should be a minimum of 25mm	Polyseam Ltd,	OTECTO [®] 15 St Andrews Road, West Yorkshire, HD1 6SB 48 4421036
As a part of our policy of on-going product development and testing	g, we reserve the right to modify, alter or change	For all technical details on the products specified please refer to the technical data sheets that can		k@polyseam.com
product specifications without giving notice. All information contain provided for guidance only. Any drawings provided are for illustrativ	e purposes only. As Polyseam has no control over	be found on www.protecta.eu Signed and approved:	Sheet size: A4	Drawn date & no: 27/2/21
the methods or competence of installation and of prevailing site con- intended to be given as to the actual performance of the product whatsoever will be accepted for any loss, damage or injury arising fro	mentioned or referred to herein and no liability		Scale:	Drawn by:
whatsoever will be accepted for any loss, damage of highly dising it	on the use of the information given.		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 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.



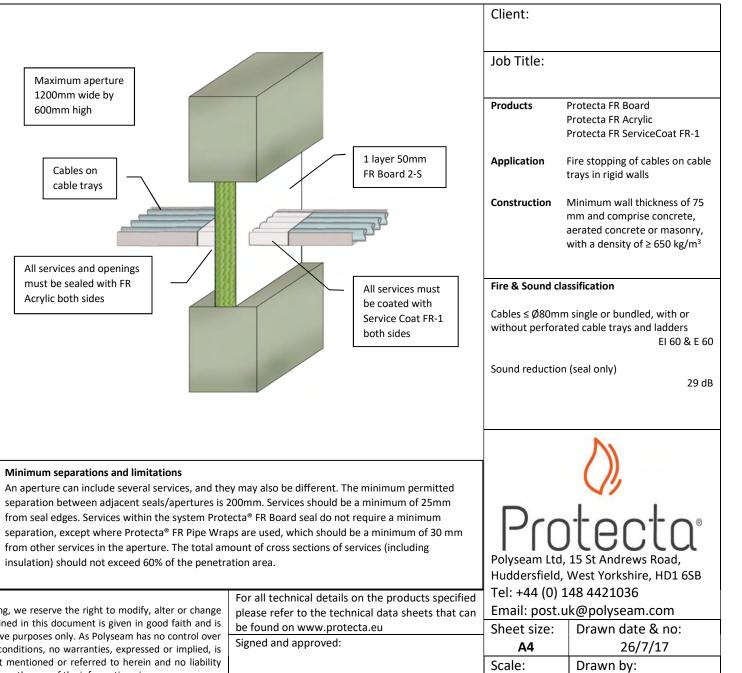


separation between adjacent seals/apertures is 200mm. Services should be a minimum of 25mm from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.

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- 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.
- 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.





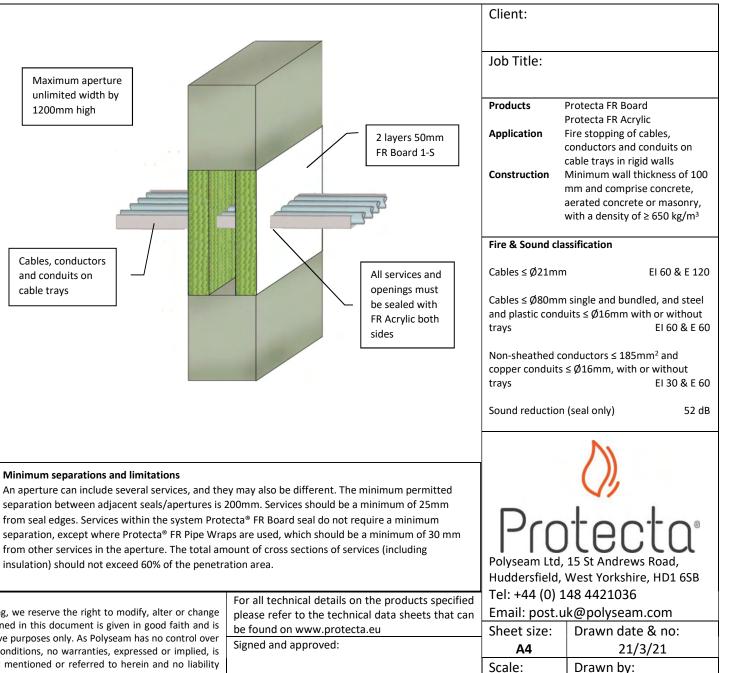
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Installation Instructions 1. Before installing Protecta[®] FR Board ensure that the

- 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.





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 where Protecta® FR Pipe Wraps are used, 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.

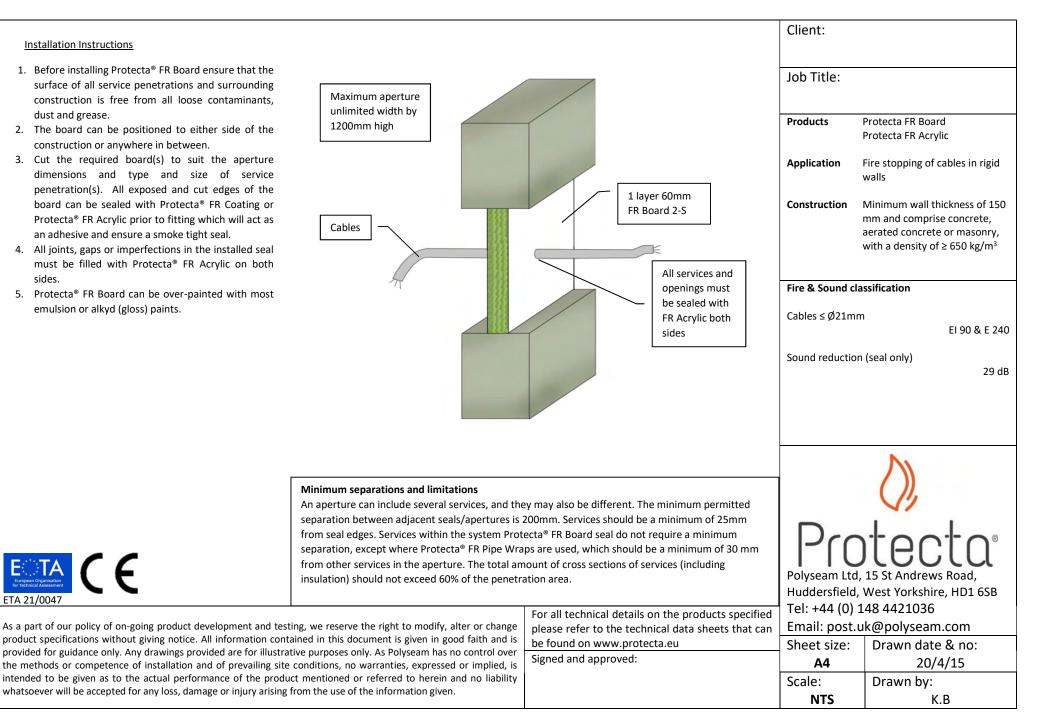
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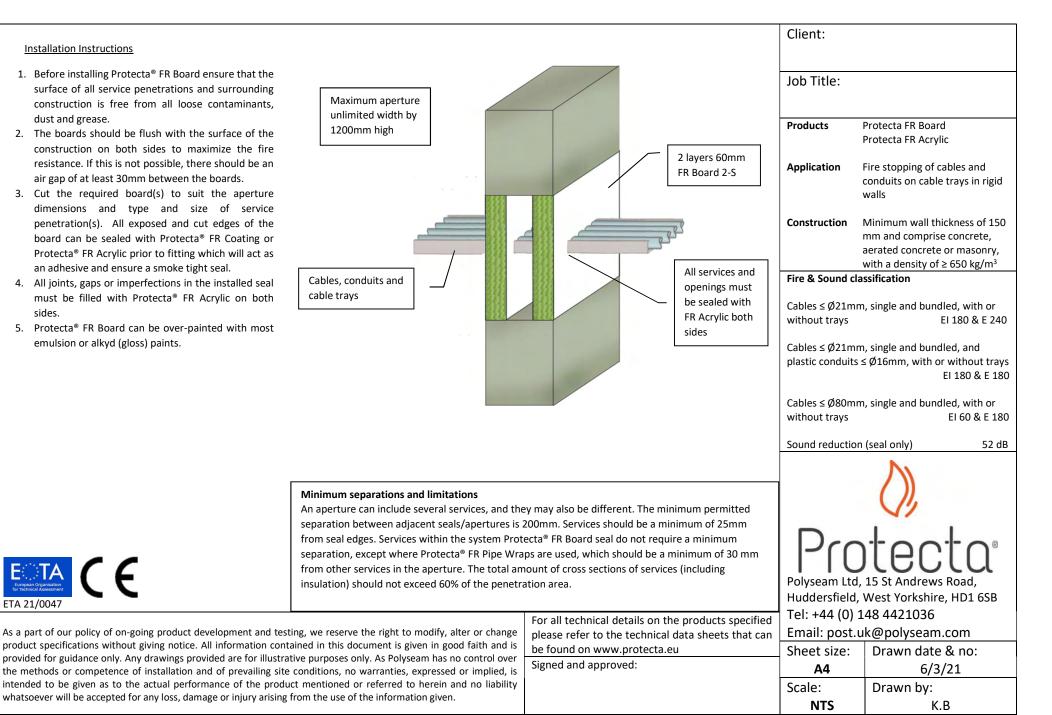
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- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The board can be positioned to either side of the construction or 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.





- 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.



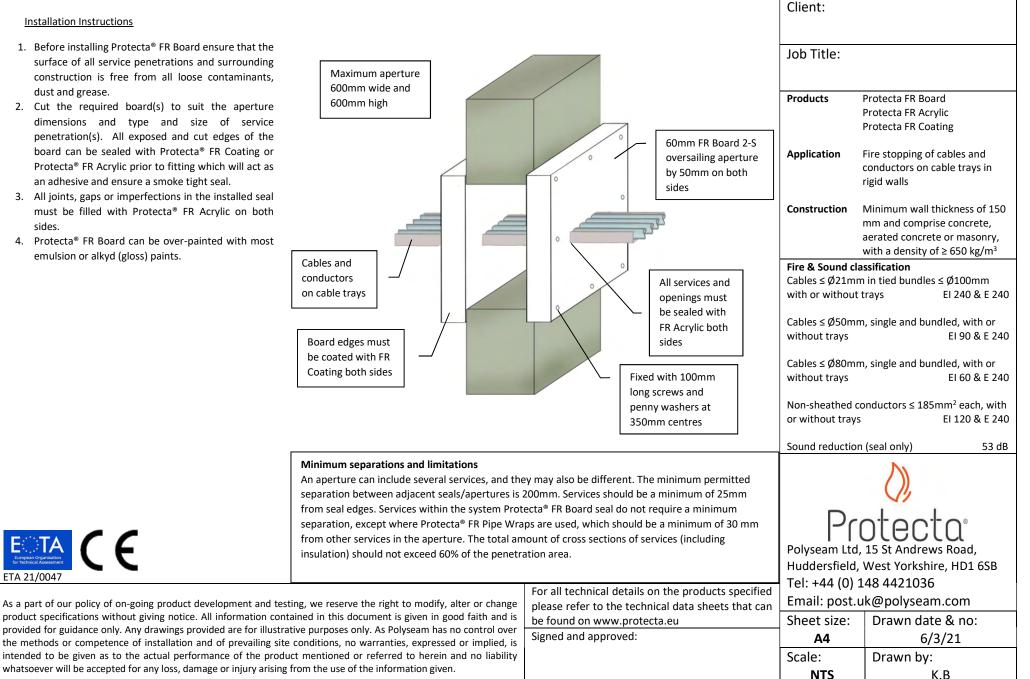


Client: Installation Instructions 1. Before installing Protecta[®] FR Board ensure that the Job Title: surface of all service penetrations and surrounding Maximum aperture construction is free from all loose contaminants, 600mm wide and dust and grease. Products Protecta FR Board 600mm high 60mm FR Board 2. Cut the required board(s) to suit the aperture Protecta FR Acrylic 2-S installed 30mm dimensions and type and size of service Protecta FR Coating into aperture both penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or sides to achieve Application Fire stopping of cables, Protecta[®] FR Acrylic prior to fitting which will act as total seal width of conductors and conduits on an adhesive and ensure a smoke tight seal. at least 210mm cable travs in rigid walls 3. All joints, gaps or imperfections in the installed seal Construction Minimum wall thickness of 150 must be filled with Protecta® FR Acrylic on both mm and comprise concrete, sides. aerated concrete or masonry, 4. Protecta® FR Board can be over-painted with most All services and with a density of $\geq 650 \text{ kg/m}^3$ emulsion or alkyd (gloss) paints. Cables and openings must Fire & Sound classification conductors be sealed with Cables $\leq \emptyset 21$ mm in tied bundles $\leq \emptyset 100$ mm FR Acrylic both on cable travs with or without trays EI 240 & E 240 sides Cables $\leq \emptyset$ 80mm, single and bundled, with or Board edges must without trays EI 60 & E 240 be coated with FR Coating both sides Non-sheathed conductors ≤ 95 mm² each. with or without travs EI 180 & E 240 Non-sheathed conductors ≤ 185 mm² each, with or without trays EI 90 & E 240 Sound reduction (seal only) 53 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 Protecta separation, except where Protecta[®] FR Pipe Wraps are used, which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road, insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0047 Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is Drawn date & no: Sheet size: be found on www.protecta.eu provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: Α4 6/3/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

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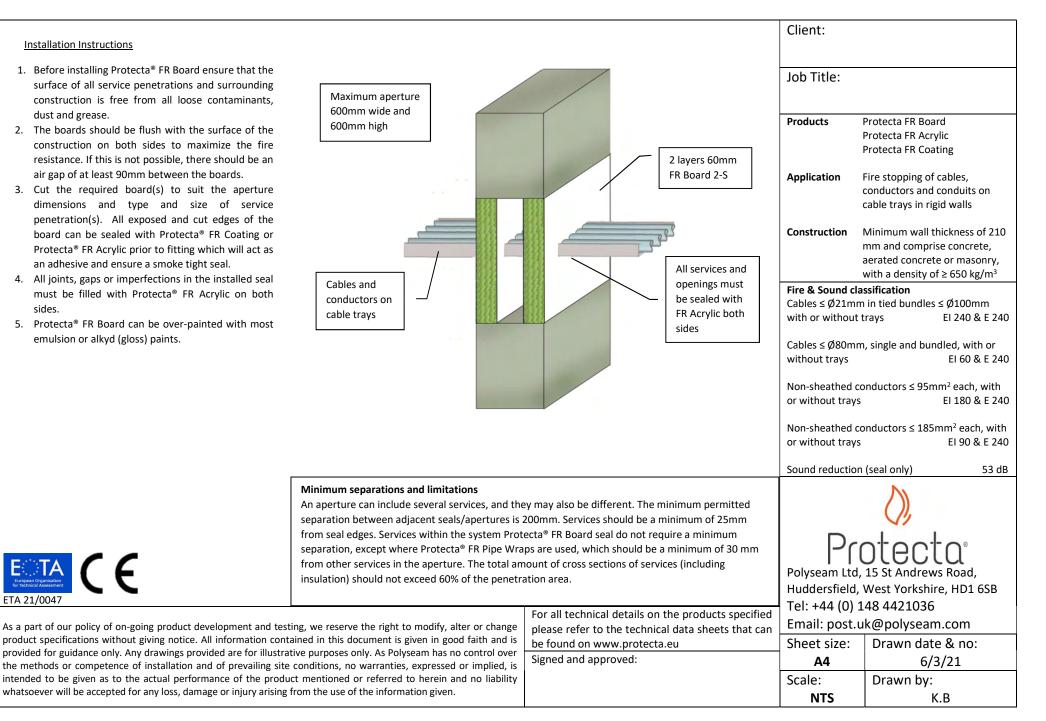
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- 2. Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s). All exposed and cut edges of the board can be sealed with Protecta® FR Coating or Protecta[®] FR Acrylic prior to fitting which will act as an adhesive and ensure a smoke tight seal.
- 3. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 4. Protecta[®] FR Board can be over-painted with most emulsion or alkyd (gloss) paints.



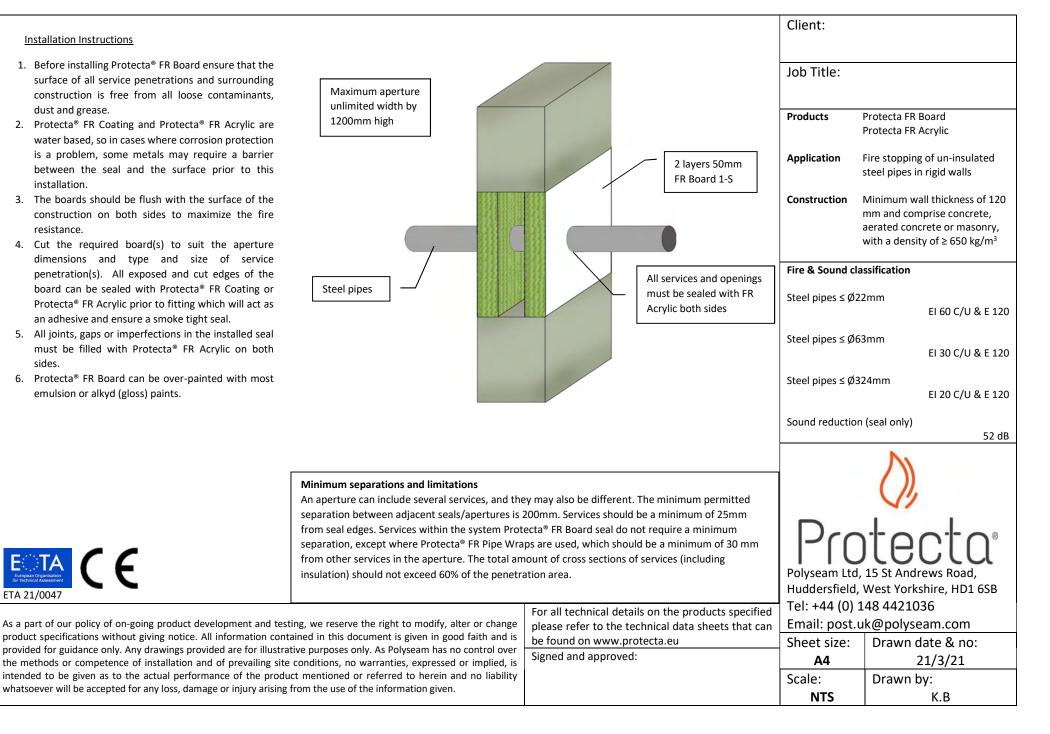


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- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not possible, there should be an air gap of at least 90mm 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.

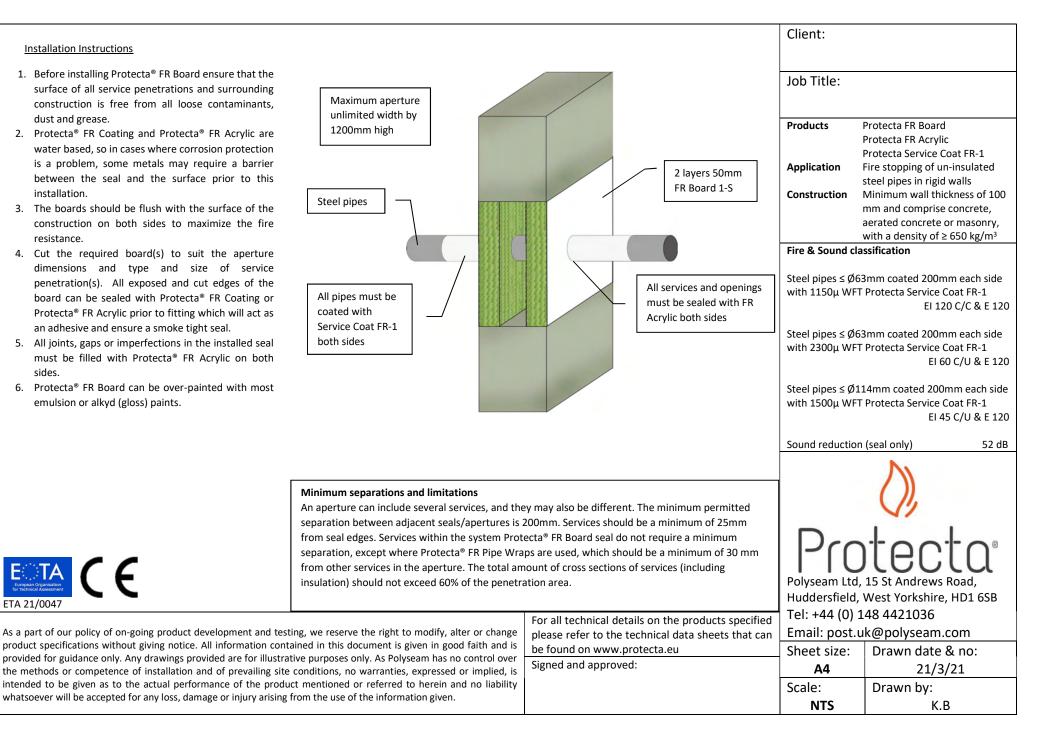


- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Protecta[®] FR Coating and Protecta[®] FR Acrylic are water based, so in cases where corrosion protection is a problem, 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.
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European Organisation for Technical Assessment ETA 21/0047

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- 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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Client: Job Title: Maximum aperture unlimited width by Products Protecta FR Board 1200mm high Protecta FR Acrylic Protecta FR Pipe Wrap 25m Application Fire stopping of insulated steel Continuous Protecta Pipe Wrap 1 pipes in rigid walls elastomeric or PE laver of 50mm wide Minimum wall thickness of 75 Construction foam insulation mm and comprise concrete, aerated concrete or masonry, with a density of $\geq 650 \text{ kg/m}^3$ Fire & Sound classification All services and openings Steel pipes must be sealed with FR Steel pipes $\leq Ø165$ mm with 9 - 25mm Acrylic both sides 1 layer 60mm continuous foam insulation FR Board 2-S EI 45 C/U & E 120 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 Proteri from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road. insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 6/3/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

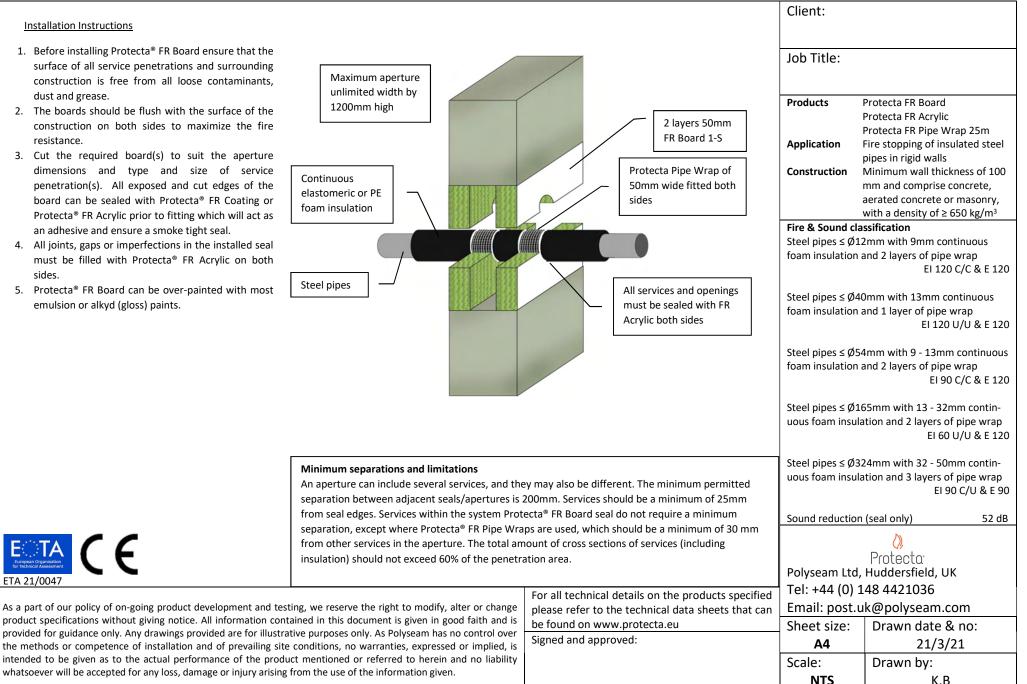


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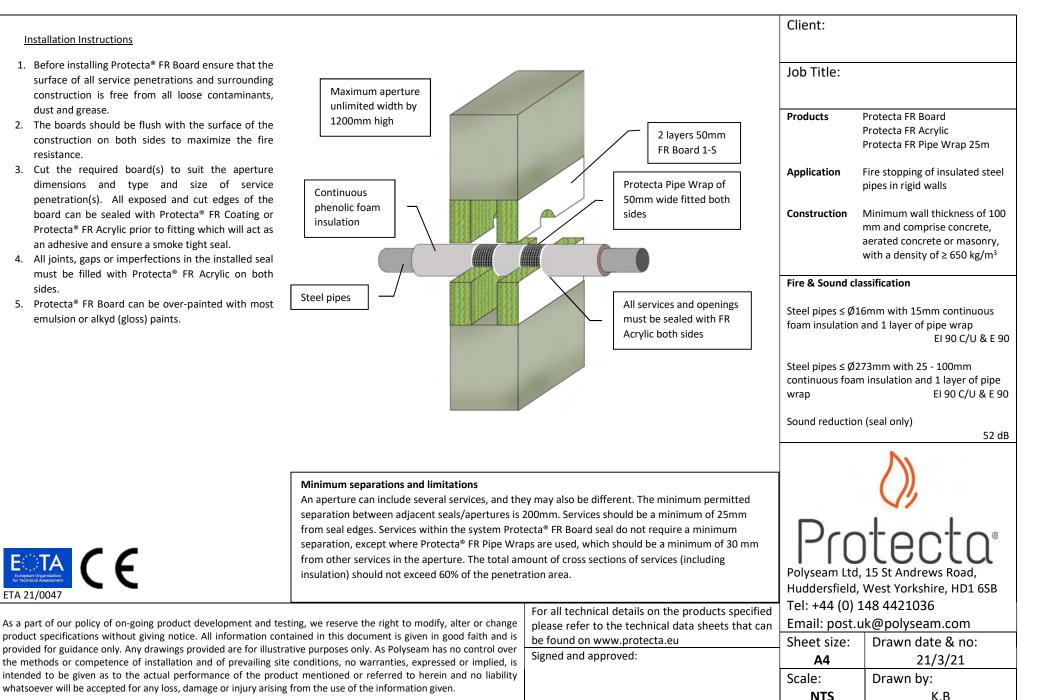
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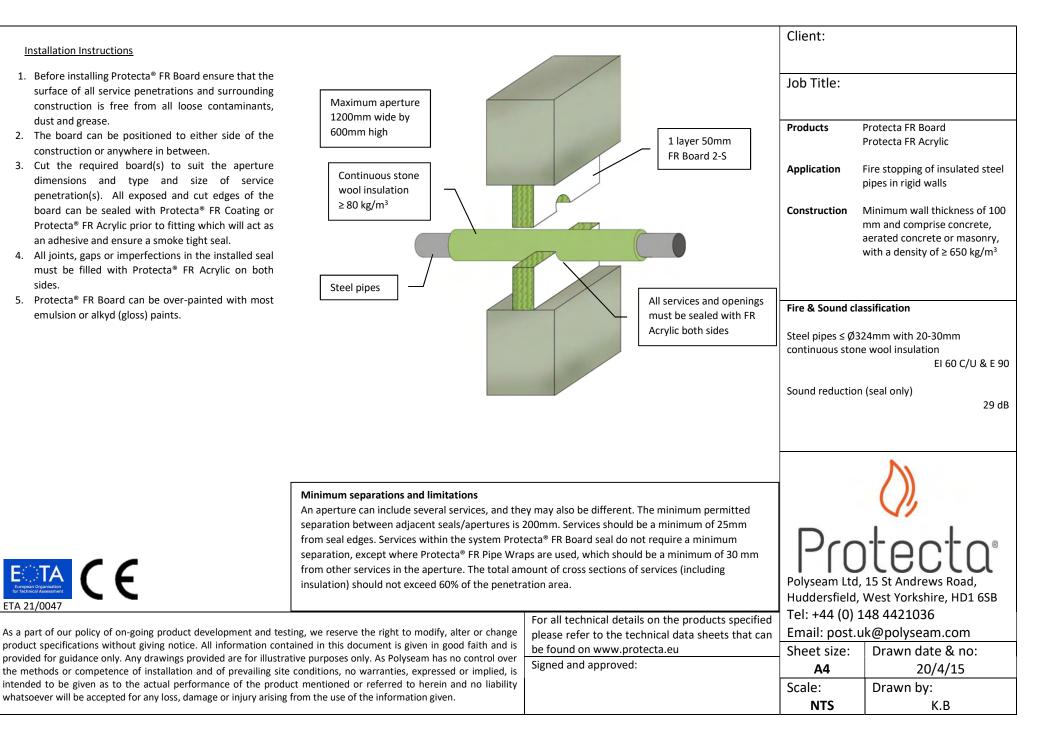


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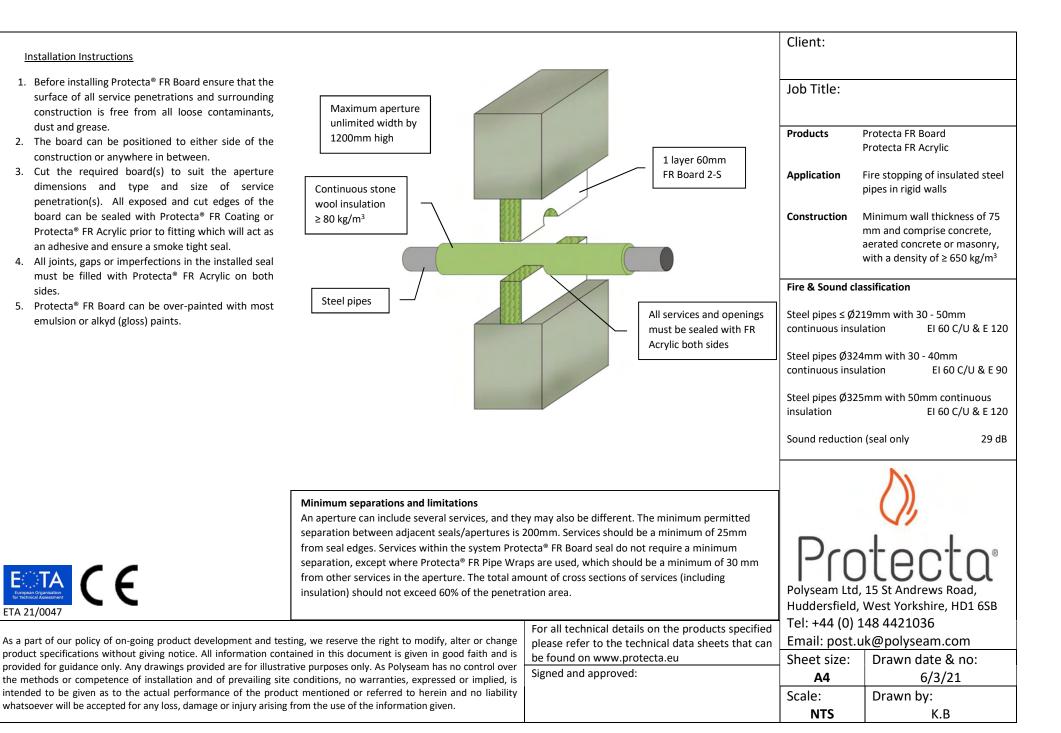


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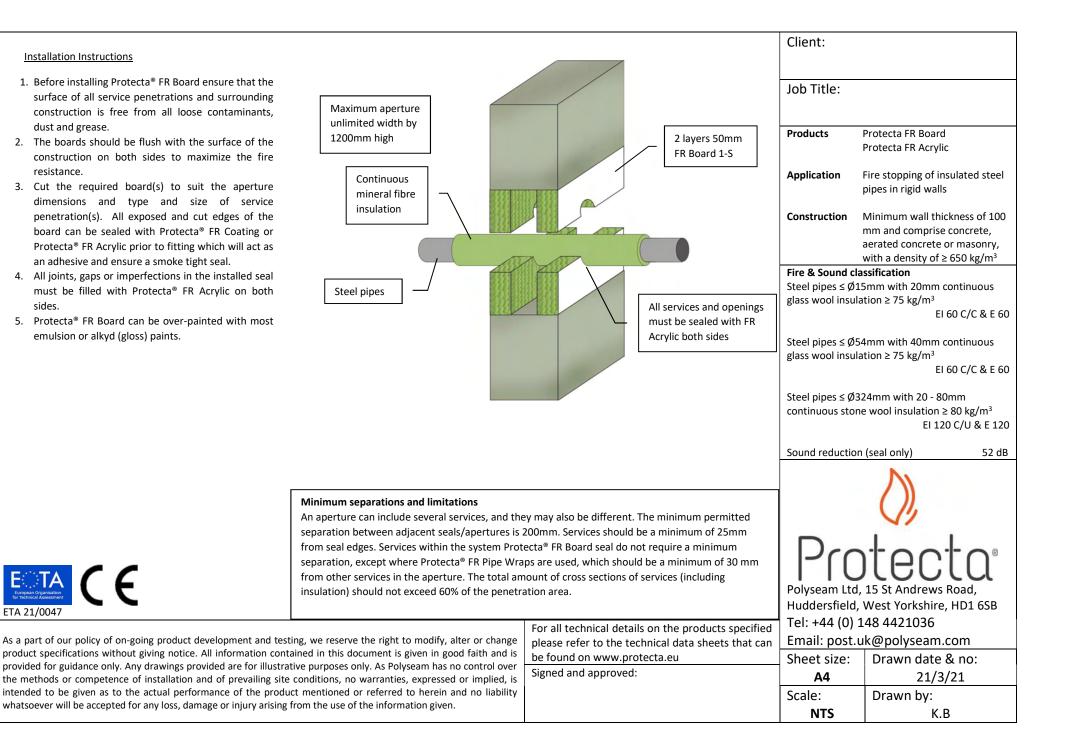
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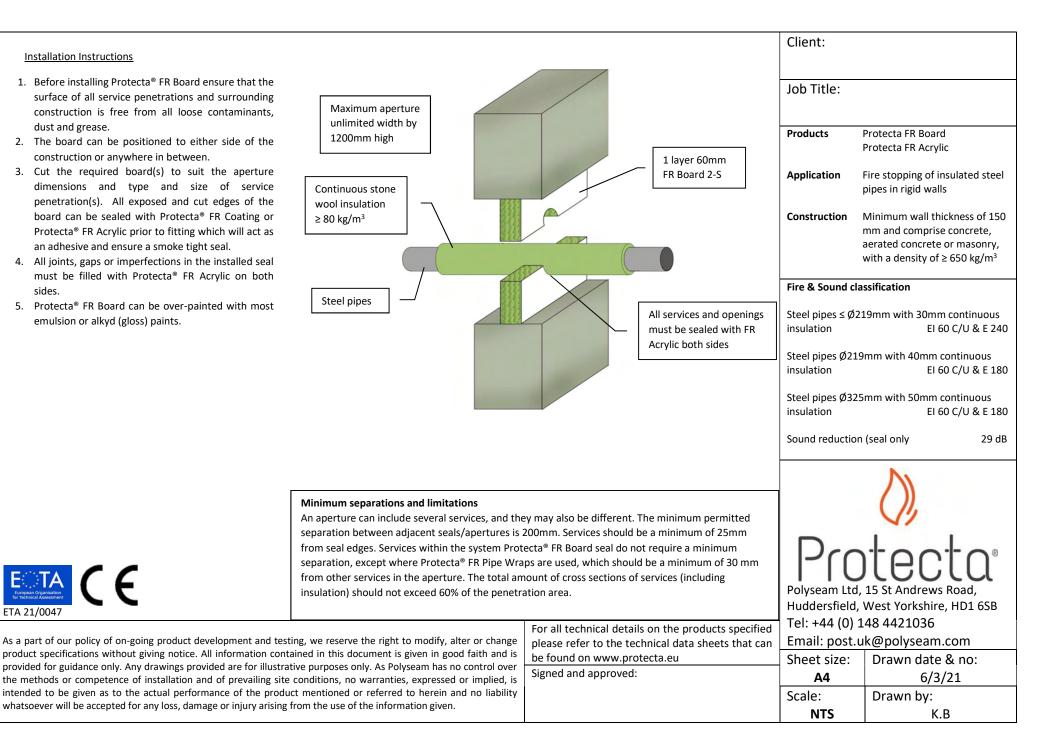


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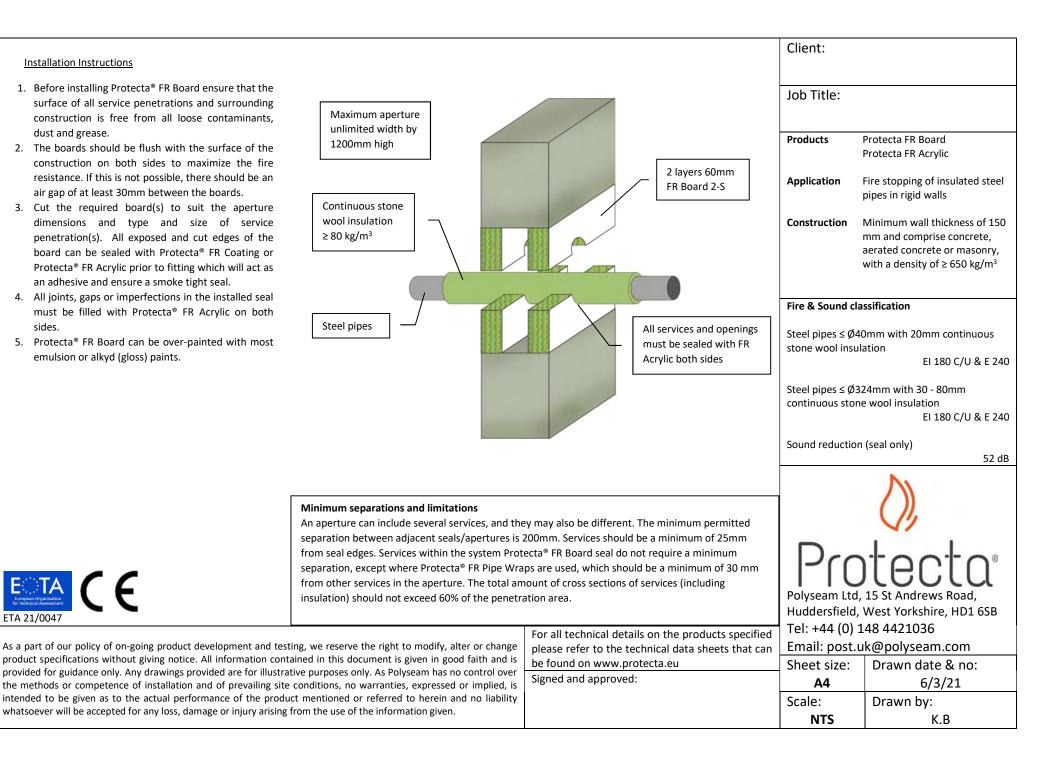


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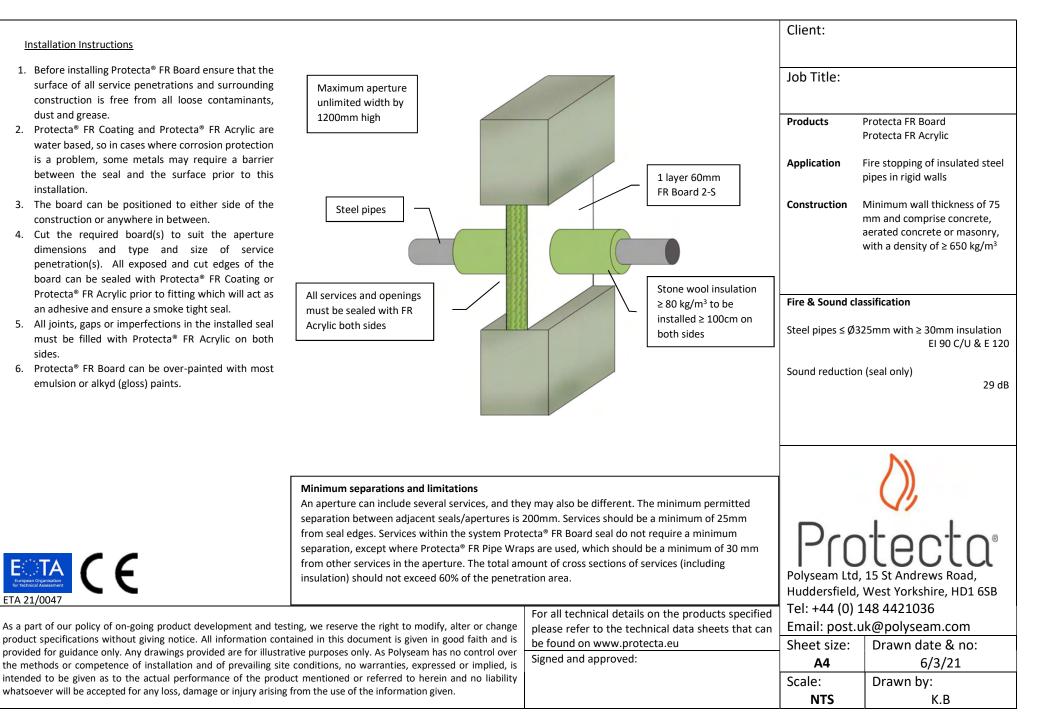
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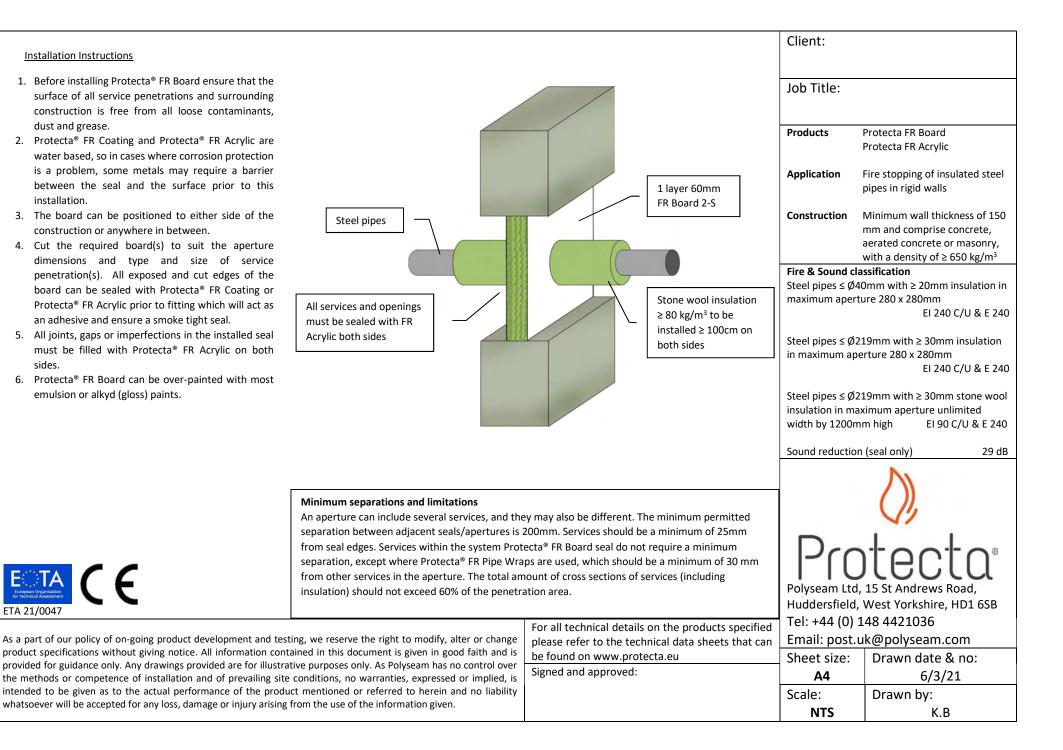


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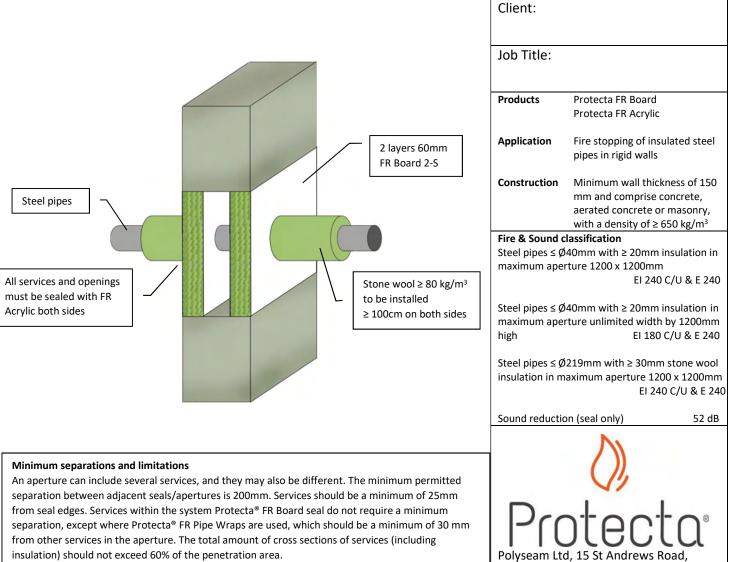
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For all technical details on the products specified
please refer to the technical data sheets that can
be found on www.protecta.eu
Signed and approved:

Huddersfield, West Yorkshire, HD1 6SB

Drawn date & no:

Drawn by:

6/3/21

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Email: post.uk@polyseam.com

Tel: +44 (0) 148 4421036

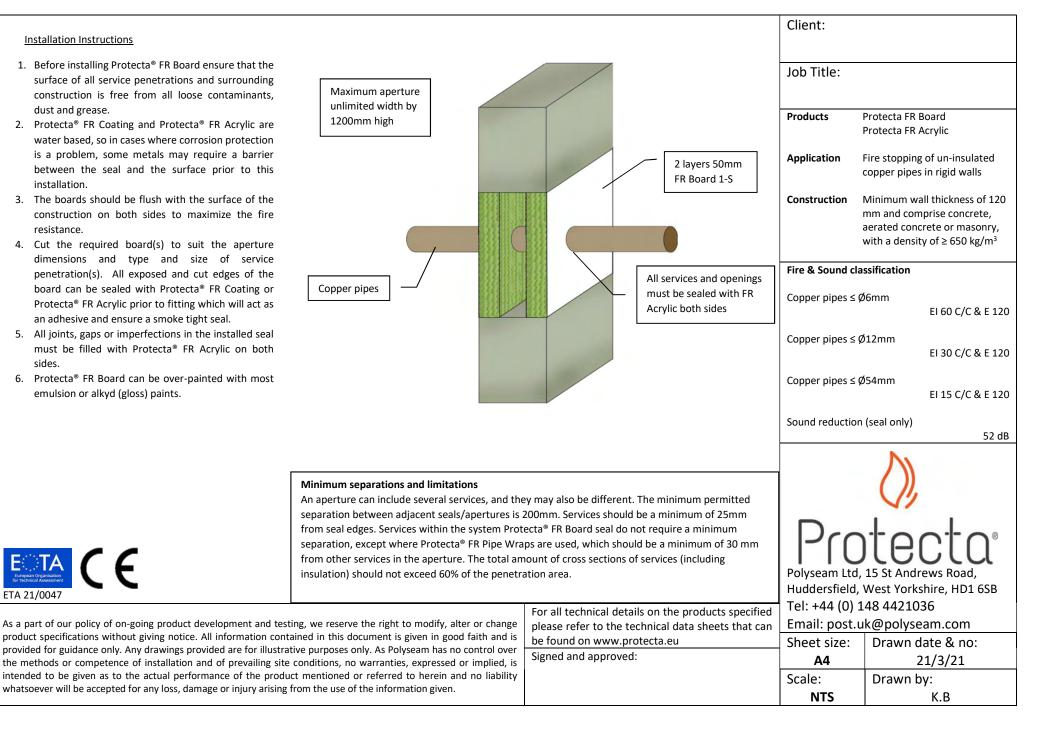
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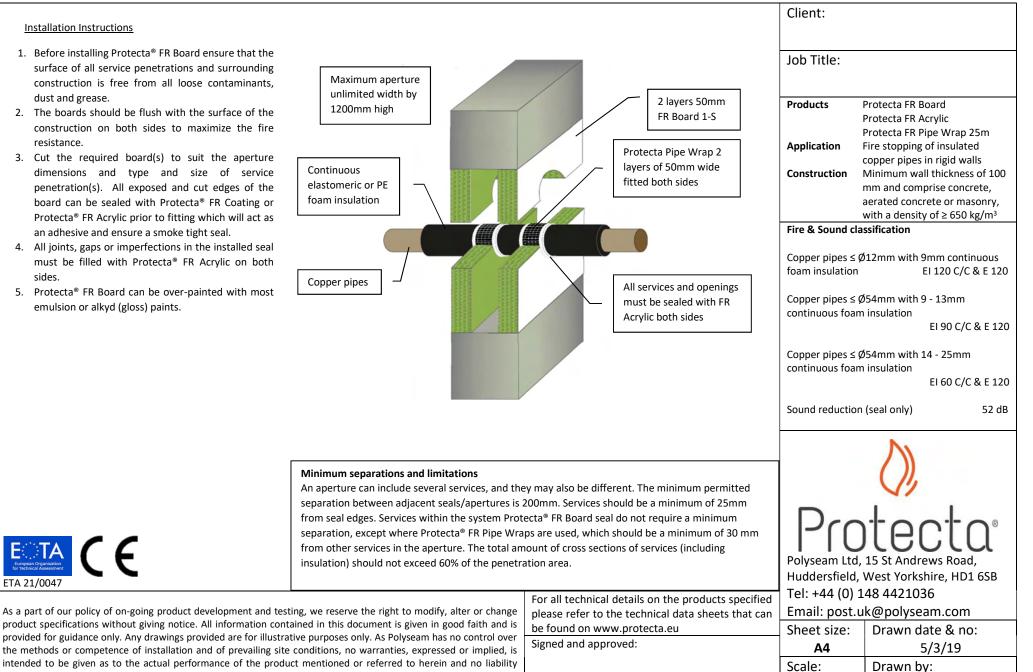




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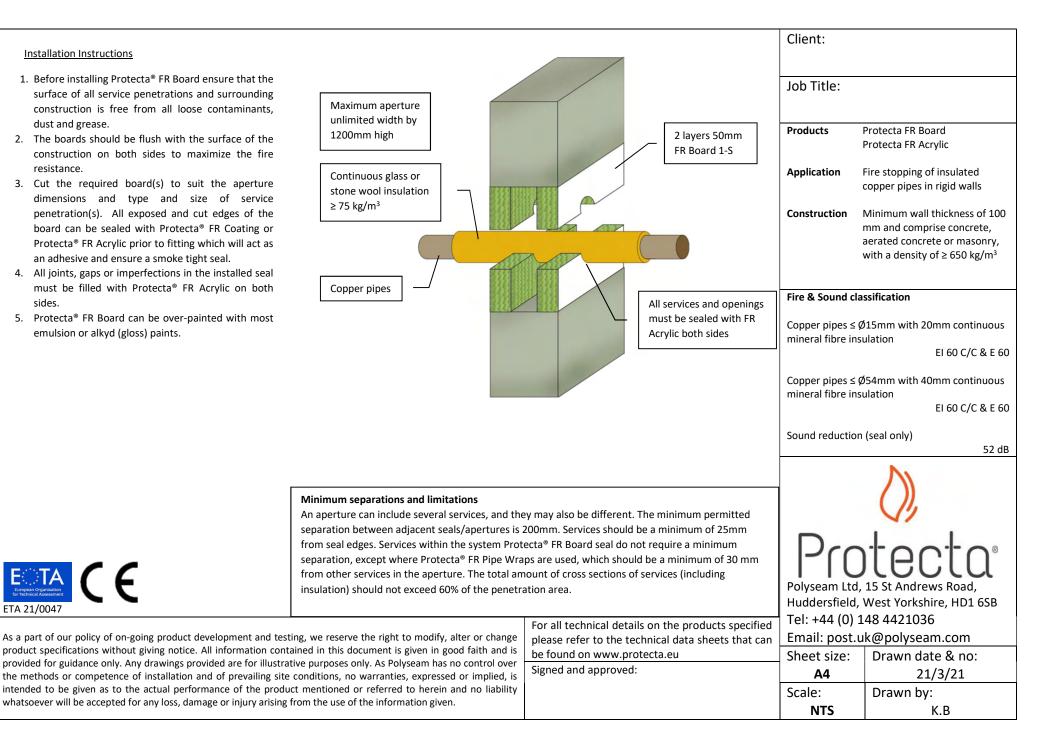
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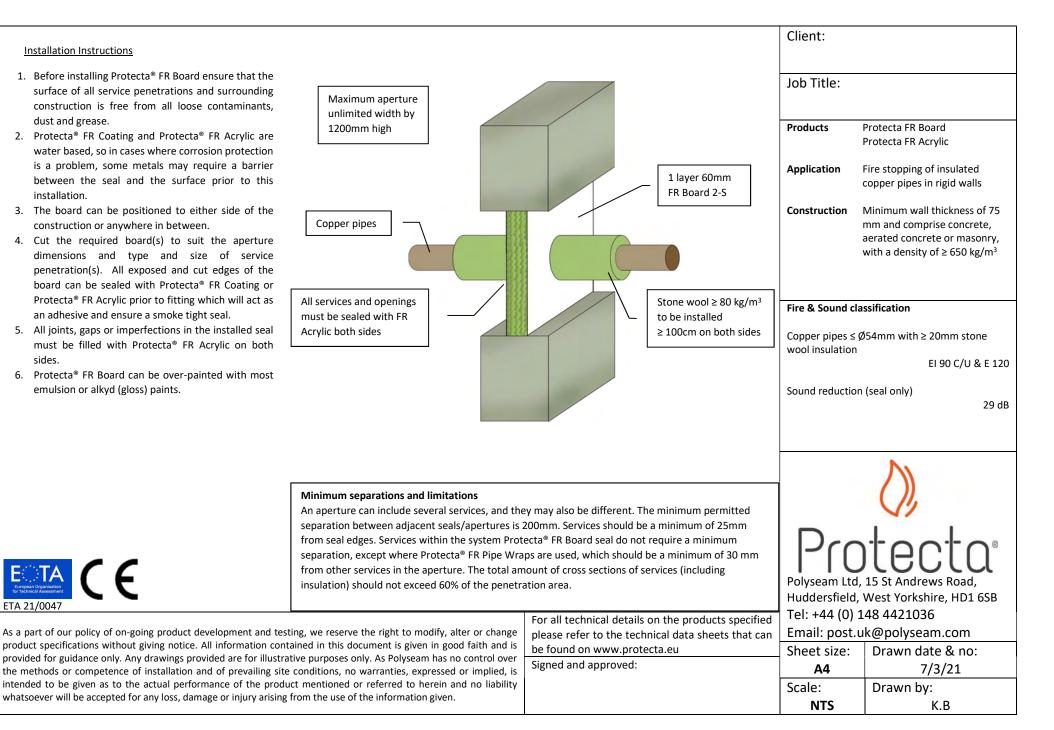
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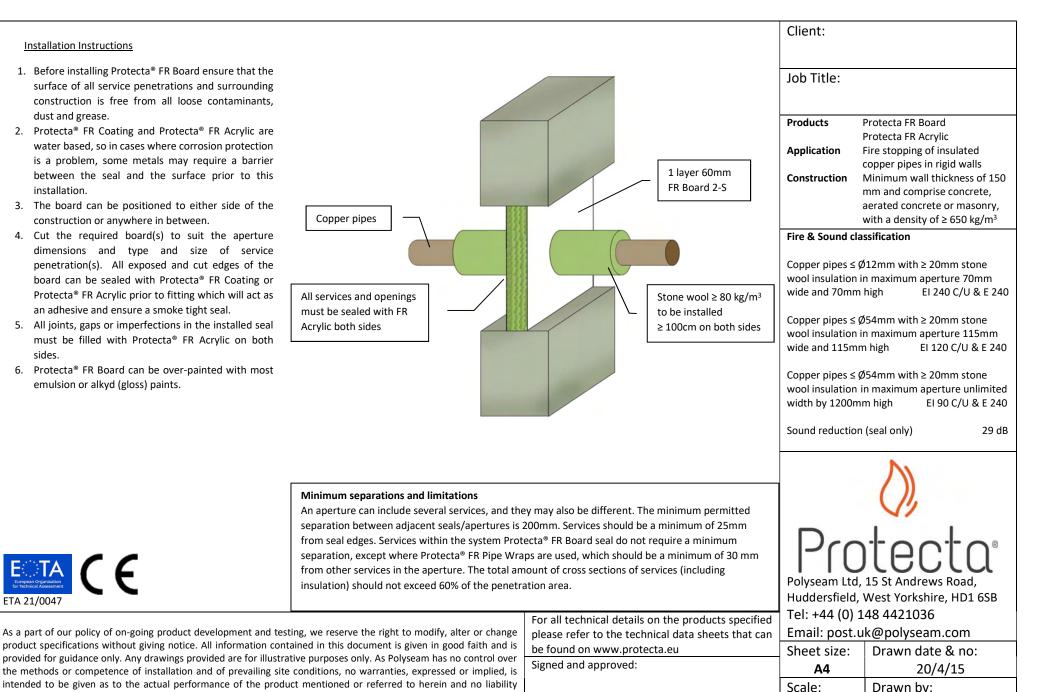


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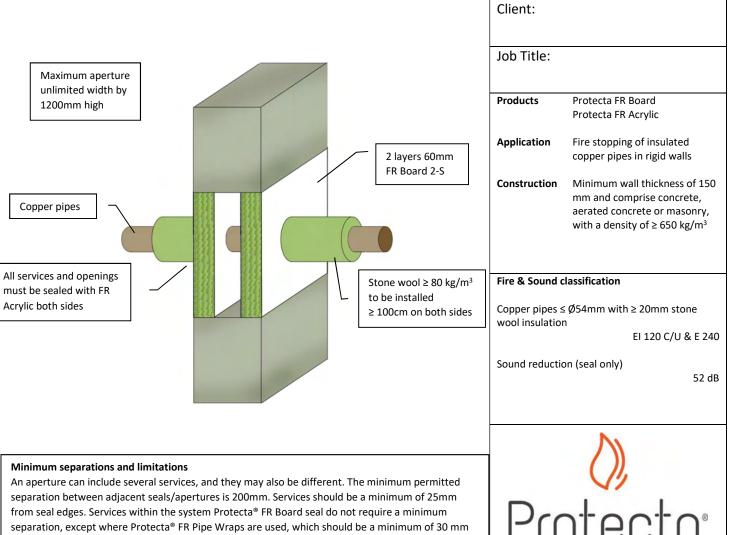
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Email: post.uk@polyseam.com

Tel: +44 (0) 148 4421036

Sheet size:

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Scale:

Huddersfield, West Yorkshire, HD1 6SB

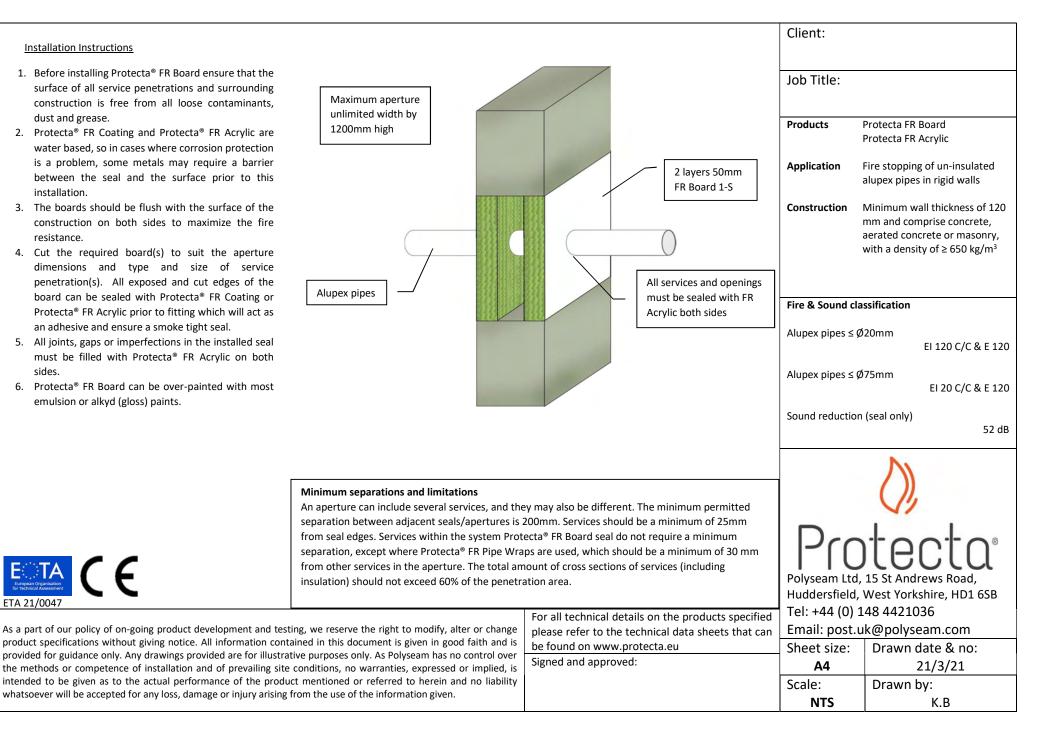
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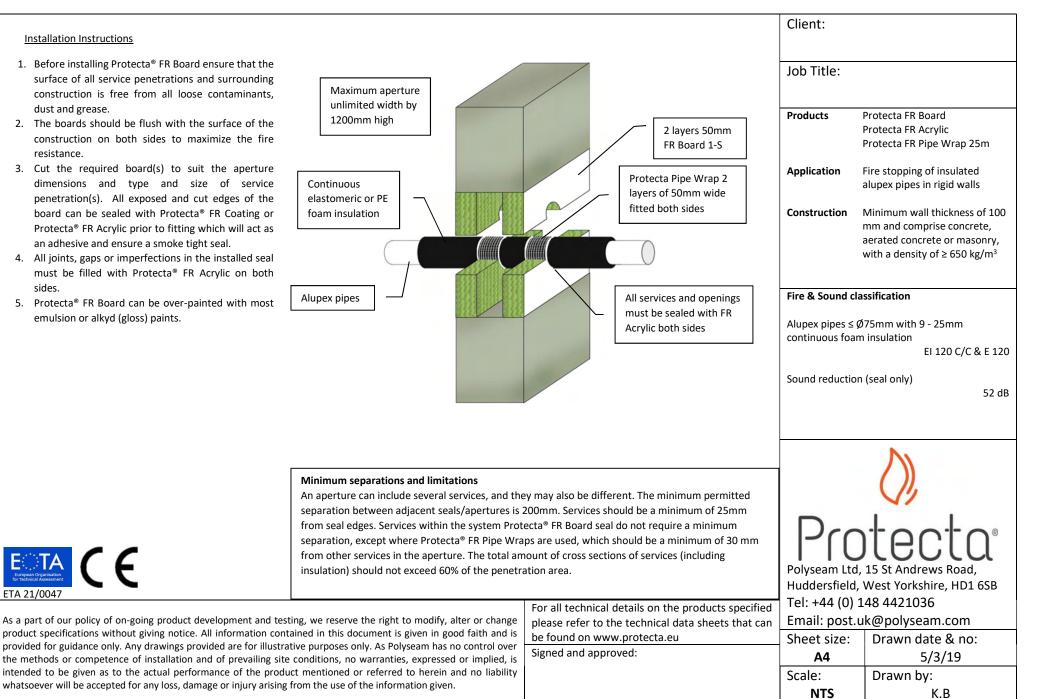
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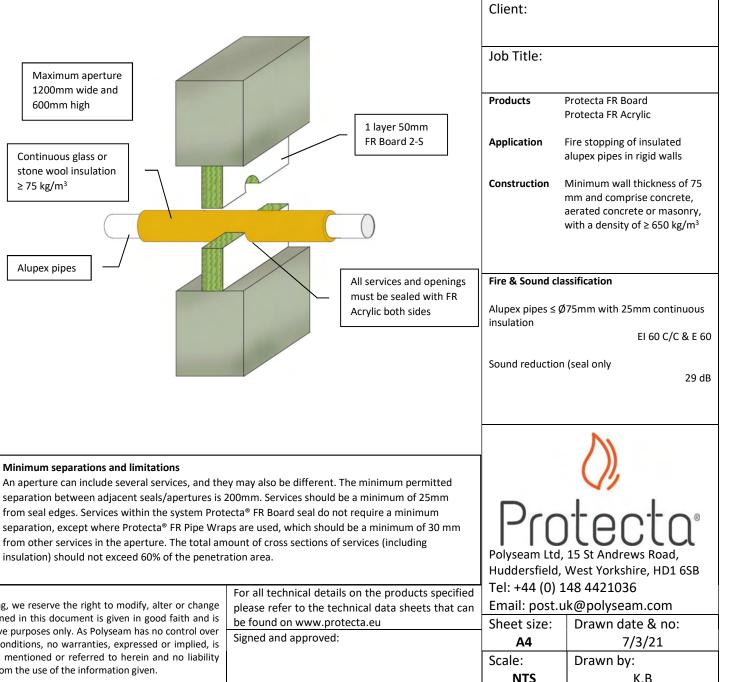
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Client: Installation Instructions 1. Before installing Protecta[®] FR Board ensure that the Job Title: surface of all service penetrations and surrounding Maximum aperture construction is free from all loose contaminants, unlimited width by dust and grease. Products Protecta FR Board 1200mm high 2 layers 50mm 2. The boards should be flush with the surface of the Protecta FR Acrylic FR Board 1-S construction on both sides to maximize the fire resistance. Application Fire stopping of insulated Continuous glass or 3. Cut the required board(s) to suit the aperture alupex pipes in rigid walls stone wool insulation dimensions and type and size of service ≥ 75 kg/m³ penetration(s). All exposed and cut edges of the Minimum wall thickness of 100 Construction mm and comprise concrete. board can be sealed with Protecta® FR Coating or aerated concrete or masonry, Protecta[®] FR Acrylic prior to fitting which will act as with a density of $\geq 650 \text{ kg/m}^3$ 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 Alupex pipes sides. All services and openings Fire & Sound classification 5. Protecta[®] FR Board can be over-painted with most must be sealed with FR emulsion or alkyd (gloss) paints. Acrylic both sides Alupex pipes ≤ 075 mm with 25 - 60 mm continuous mineral fibre insulation EI 90 C/C & 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 Julton from seal edges. Services within the system Protecta® FR Board seal do not require a minimum separation, except where Protecta® FR Pipe Wraps are used, which should be a minimum of 30 mm European Organisation for technical Assessment from other services in the aperture. The total amount of cross sections of services (including Polyseam Ltd, 15 St Andrews Road, insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB ETA 21/0047 Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 21/3/21 A4 the methods or competence of installation and of prevailing site conditions, no warranties, expressed or implied, is

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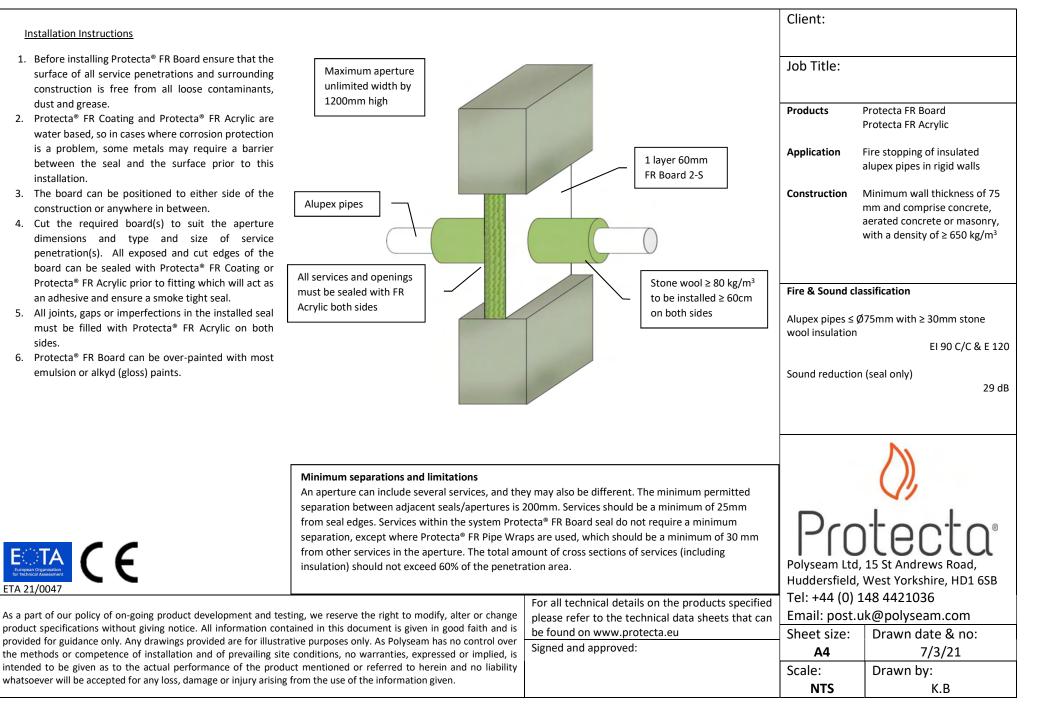
Drawn by:

Scale:

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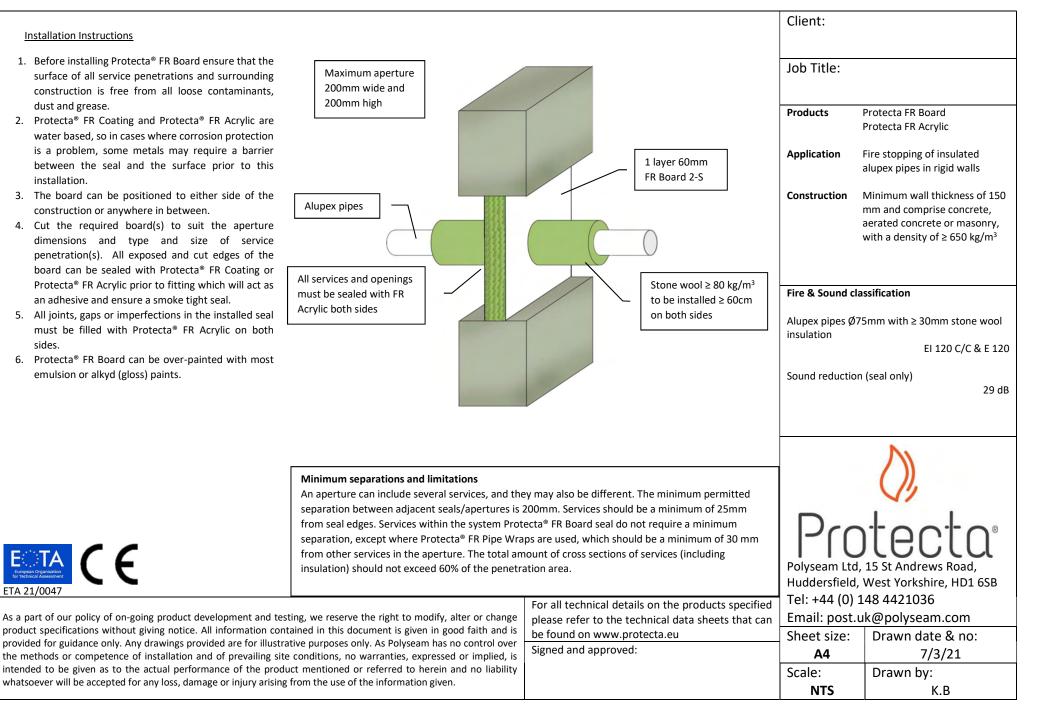
- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. Protecta[®] FR Coating and Protecta[®] FR Acrylic are water based, so in cases where corrosion protection is a problem, some metals may require a barrier between the seal and the surface prior to this installation.
- 3. The 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.
- 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.

European Organisation for Technical Assessment

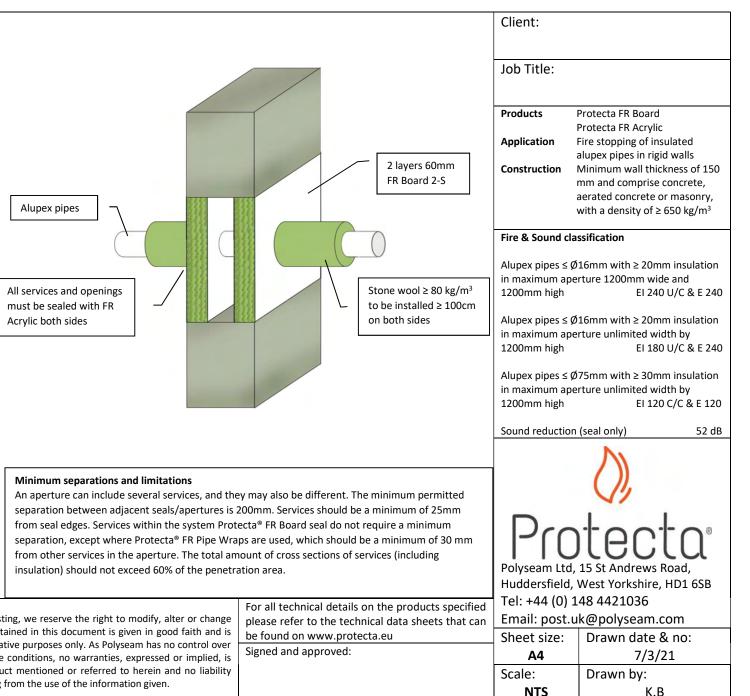


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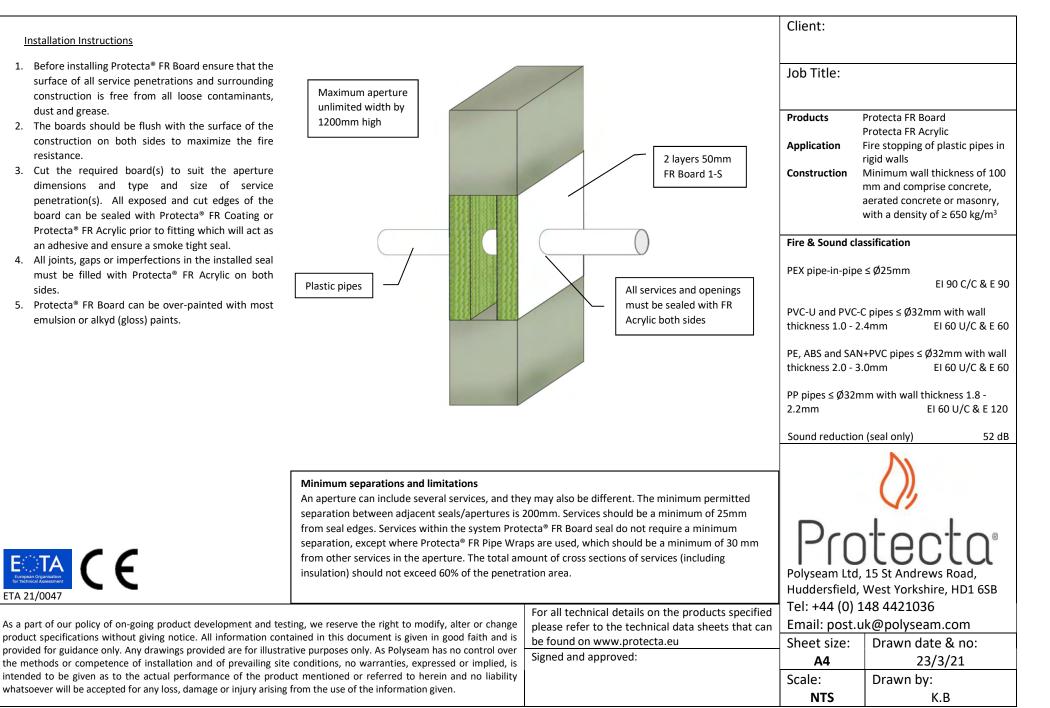
- Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. If this is not 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.
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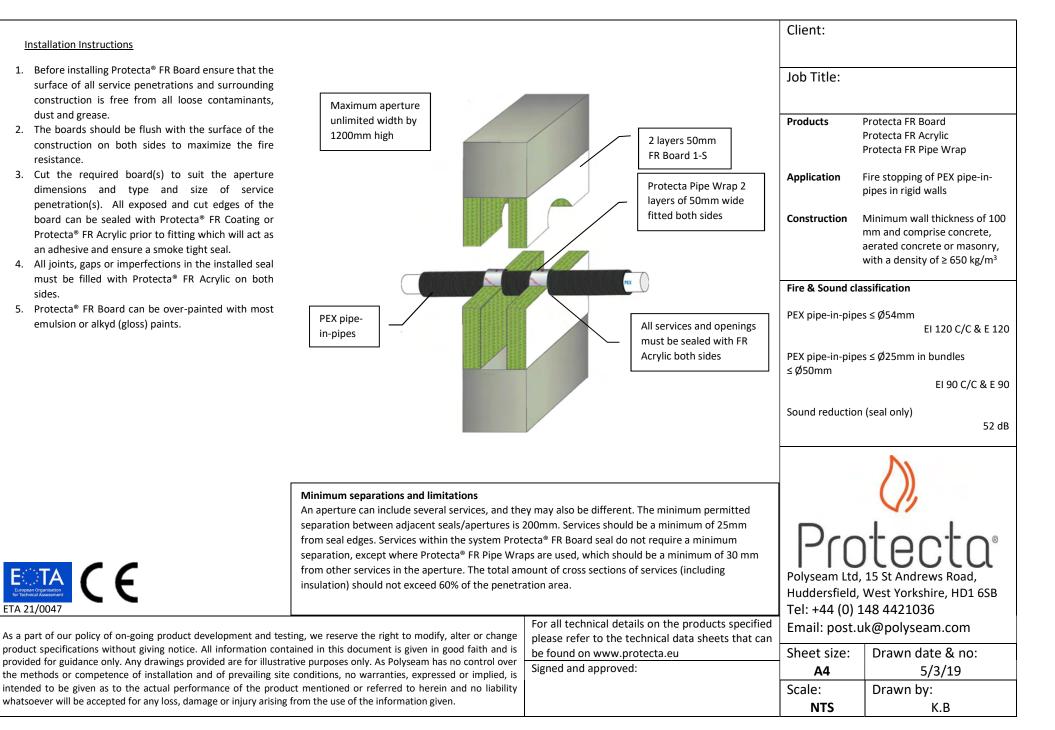
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As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change product specifications without giving notice. All information contained in this document is given in good faith and is provided for 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.

- 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.



- 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.
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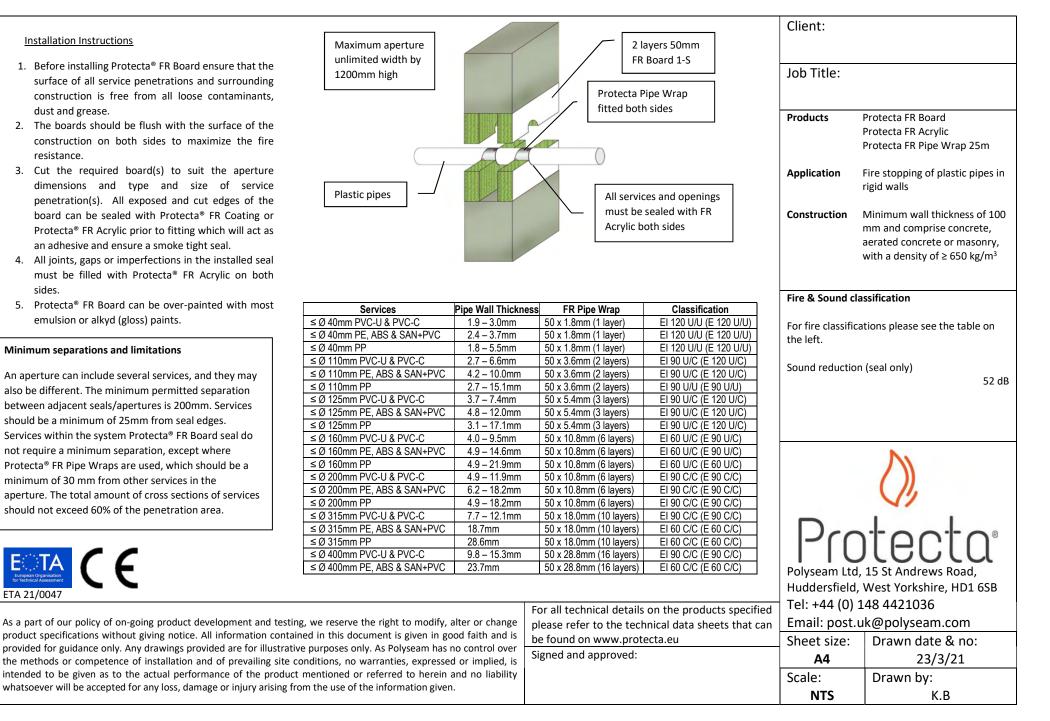


- 1. Before installing Protecta[®] FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease.
- 2. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance.
- 3. Cut 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.

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 where
Protecta [®] FR Pipe Wraps are used, 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.





Page | 324

- 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.

Minimum separ	rations and	limitations
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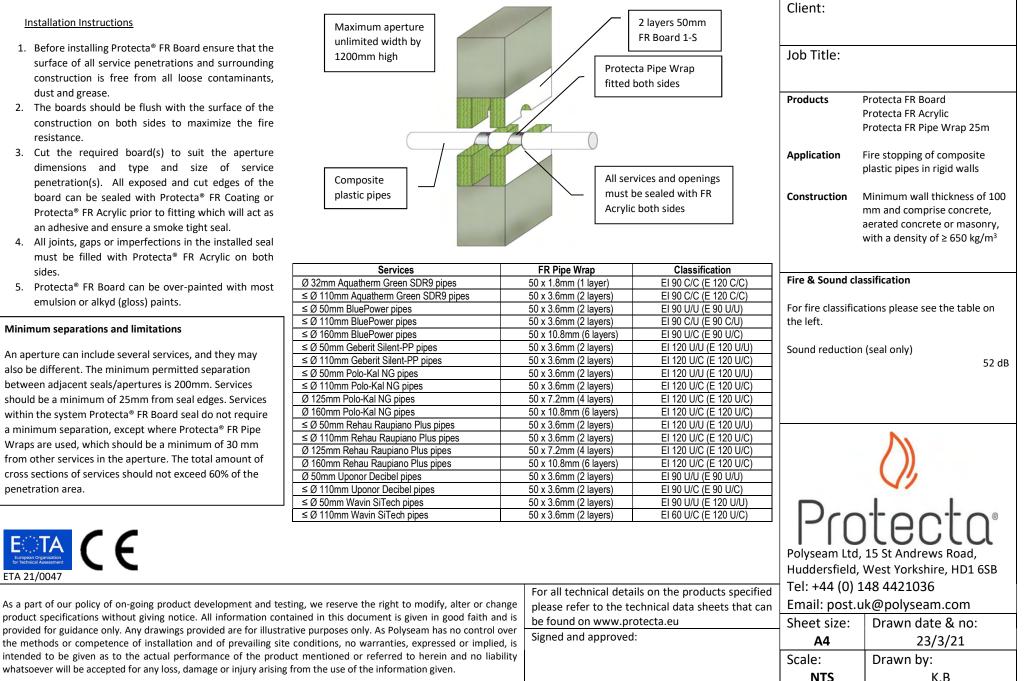
					Client:	
Installation Instructions	Maximum aporturo		/		Cherter	
	Maximum aperture	/ /				
1. Before installing Protecta [®] FR Board ensure that the	unlimited width by			2 layers 60mm	Job Title:	
surface of all service penetrations and surrounding	1200mm high		F	FR Board 2-S	Job Inte.	
construction is free from all loose contaminants,						
dust and grease.			Protecta	a Pipe Wrap		
2. The boards should be flush with the surface of the			fitted bo		Products	Protecta FR Board
construction on both sides to maximize the fire						Protecta FR Acrylic
			6			Protecta FR Pipe Wrap 25m
resistance. If this is not possible, there should be an						
air gap of at least 30mm between the boards.					Application	Fire stopping of plastic pipes in
3. Cut the required board(s) to suit the aperture	/		\searrow			rigid walls
dimensions and type and size of service	Plastic pipes		All servio	ces and openings		
penetration(s). All exposed and cut edges of the		SEE 128		sealed with FR	Construction	Minimum wall thickness of 150
board can be sealed with Protecta [®] FR Coating or				both sides		mm and comprise concrete,
Protecta [®] FR Acrylic prior to fitting which will act as			Activite b			aerated concrete or masonry,
an adhesive and ensure a smoke tight seal.						with a density of \geq 650 kg/m ³
4. All joints, gaps or imperfections in the installed seal						
must be filled with Protecta® FR Acrylic on both						
sides.					Fire & Sound cl	assification
	Services		ess FR Pipe Wrap	Classification		
5. Protecta [®] FR Board can be over-painted with most	≤ Ø 40mm PVC-U & PVC-C	1.9 – 3.0mm	50 x 1.8mm (1 layer)	EI 240 U/C (E 240 U/C)	For fire classific	ations please see the table on
emulsion or alkyd (gloss) paints.	≤ Ø 40mm PE, ABS & SAN+PVC	2.4 – 4.6mm	50 x 1.8mm (1 layer)	EI 240 U/C (E 240 U/C)	the left.	
	≤ Ø 40mm PP	1.8 – 5.5mm	50 x 1.8mm (1 layer)	EI 240 U/C (E 240 U/C)		
Minimum separations and limitations	$\leq \emptyset$ 110mm PVC-U & PVC-C	2.7 – 6.6mm 3.4 – 10.0mm	50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C)	Sound reduction	
	≤ Ø 110mm PE, ABS & SAN+PVC ≤ Ø 110mm PP	2.7 – 10.0mm	50 x 3.6mm (2 layers) 50 x 3.6mm (2 layers)	EI 240 U/C (E 240 U/C) EI 240 C/C (E 240 C/C)		52 dB
An aperture can include several services, and they may also	≤ Ø 125mm PVC-U & PVC-C	4.7 – 7.4mm	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)		
be different. The minimum permitted separation between	≤Ø 125mm PE, ABS & SAN+PVC		50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)		
adjacent seals/apertures is 200mm. Services should be a	≤ Ø 125mm PP	3.1 – 11.4mm		EI 240 C/C (E 240 C/C)		
minimum of 25mm from seal edges. Services within the	≤Ø160mm PVC-U & PVC-C	4.0 – 9.5mm	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)		
system Protecta [®] FR Board seal do not require a minimum	≤ Ø 160mm PE, ABS & SAN+PVC	4.9 – 9.5mm	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)		N
separation, except where Protecta [®] FR Pipe Wraps are used,	≤ Ø 160mm PP	4.9 – 14.6mm	50 x 10.8mm (6 layers)	EI 240 C/C (E 240 C/C)		
which should be a minimum of 30 mm from other services in	≤ Ø 200mm PVC-U & PVC-C	4.9 – 11.9mm	75 x 10.8mm (6 layers)	EI 180 C/C (E 180 C/C)		()
the aperture. The total amount of cross sections of services	≤ Ø 200mm PE, ABS & SAN+PVC	4.9 – 18.2mm		EI 180 C/C (E 180 C/C)		
should not exceed 60% of the penetration area.	≤ Ø 200mm PP	4.9 – 18.2mm	75 x 10.8mm (6 layers)	EI 180 C/C (E 180 C/C)		47
'	≤ Ø 315mm PVC-U & PVC-C	7.7 – 12.1mm		EI 120 C/C (E 120 C/C)		
	≤ Ø 315mm PE, ABS & SAN+PVC	28.6mm	75 x 18.0mm (10 layers)	EI 120 C/C (E 180 C/C)	Jrr	
	≤ Ø 400mm PVC-U & PVC-C ≤ Ø 400mm PE, ABS & SAN+PVC	9.8 – 15.3mm 36.3mm	75 x 28.8mm (16 layers) 75 x 28.8mm (16 layers)	EI 120 C/C (E 120 C/C) EI 120 C/C (E 120 C/C)		
	≤ 0.400 Milli PE, ABS & SAN+PVC	30.300	75 X 20.011111 (10 layers)	EI 120 0/0 (E 120 0/0)	Delycoom Ltd	, 15 St Andrews Road,
European Organisation for Tachnical Assessment						
ETA 21/0047						West Yorkshire, HD1 6SB
			For all technical details o	on the products specified	Tel: +44 (0)	148 4421036
As a part of our policy of on-going product development and testing	g, we reserve the right to modify, al		please refer to the techn		Email: post.	uk@polyseam.com
product specifications without giving notice. All information contain	0 0	d faith and is	be found on www.protec		Sheet size:	Drawn date & no:
provided for guidance only. Any drawings provided are for illustrativ		o control over	Signed and approved:			
the methods or competence of installation and of prevailing site co		or implied, is	Signed and approved.		A4	21/3/21
intended to be given as to the actual performance of the product	mentioned or referred to herein ar	nd no liability			Scale:	Drawn by:
whatsoever will be accepted for any loss, damage or injury arising fro						

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.

Minimum separations and limitations



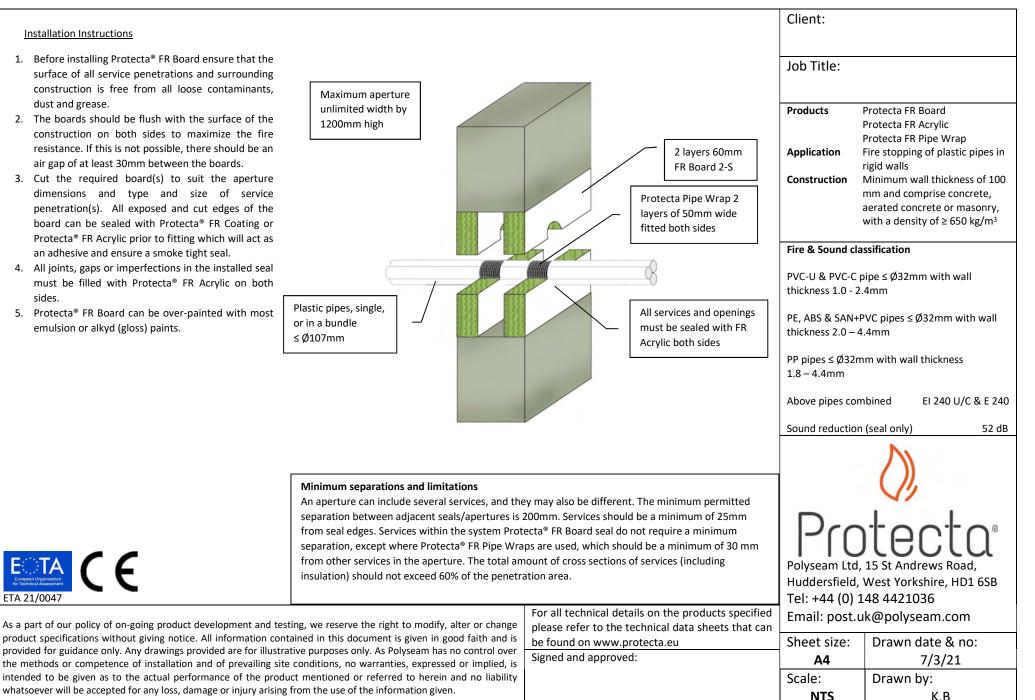


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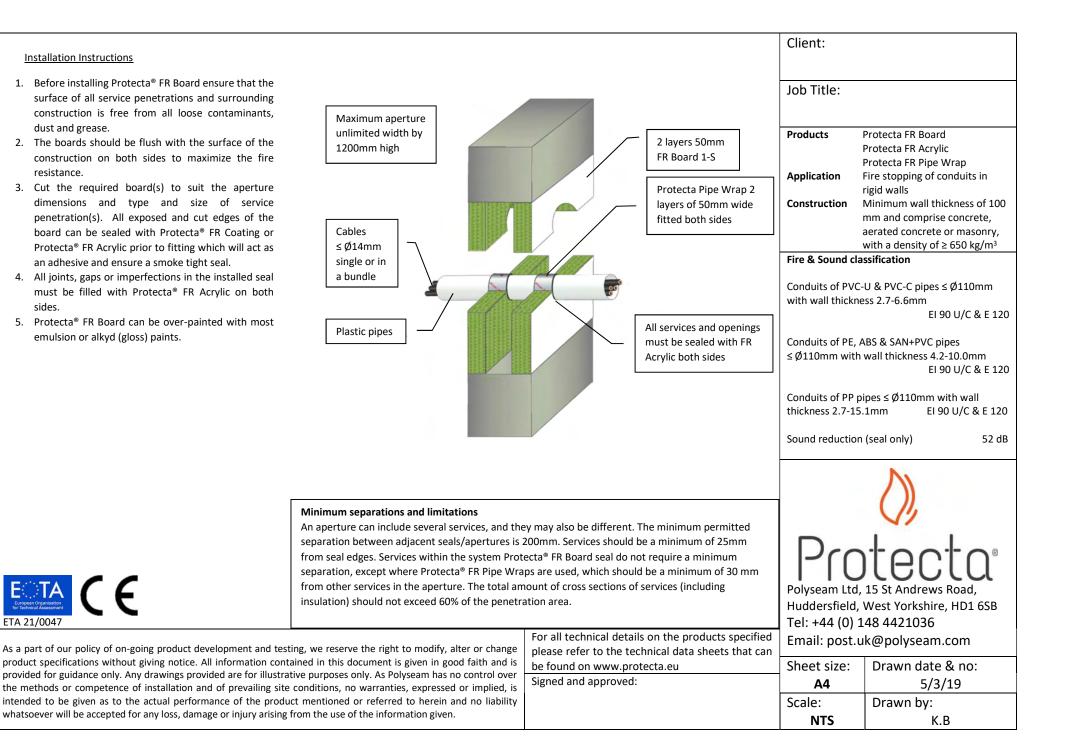
Installation Instructions			Client:	
 Before installing Protecta® FR Board ensure that the surface of all service penetrations and surrounding construction is free from all loose contaminants, dust and grease. The boards should be flush with the surface of the construction on both sides to maximize the fire resistance. Cut the required board(s) to suit the aperture 9 - 50mm thick 		2 layers 50mm FR Board 1-S	Application Construction	Protecta FR Board Protecta FR Acrylic Protecta FR Pipe Wrap 25m Fire stopping of insulated plastic pipes in rigid walls Minimum wall thickness of 100 mm and comprise concrete,
 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. 		Protecta Pipe Wrap 50mm wide fitted both sides	Fire & Sound cla PE, ABS and SAN 3.0 - 9.5mm, ≤ Ø layers of pipe wr PE, ABS and SAN 3.0 - 9.5mm, ≤ Ø layers of pipe wr PE pipes ≤ Ø160r 9.5mm, and ≤ Ø2 layers of pipe wr PP pipes with wa ≤ Ø68mm incl. in	aerated concrete or masonry, with a density of ≥ 650 kg/m ³ ssification +PVC pipes with wall thickness 68mm incl. insulation with 2 ap EI 60 C/C & E 60 +PVC pipes with wall thickness 178mm incl. insulation with 6 ap EI 60 C/C & E 60 nm with wall thickness 3.0 - 260mm incl. insulation with 10 ap EI 60 C/C & E 60 Il thickness 1.8 - 14.6mm, sulation with 2 layers of pipe
separation between adjacent s from seal edges. Services withi separation, except where Prote	al services, and the seals/apertures is a in the system Prot ecta [®] FR Pipe Wra rture. The total am	ey may also be different. The minimum permitted 200mm. Services should be a minimum of 25mm cecta® FR Board seal do not require a minimum aps are used, which should be a minimum of 30mm nount of cross sections of services (including ation area.	<pre>≤ Ø178mm incl. i wrap PP pipes ≤ Ø160r 14.6mm, and ≤ Ø layers of pipe wr Sound reduction Polyseam Ltd,</pre>	(seal only) 52 dB 15 St Andrews Road,
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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.
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- 4. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
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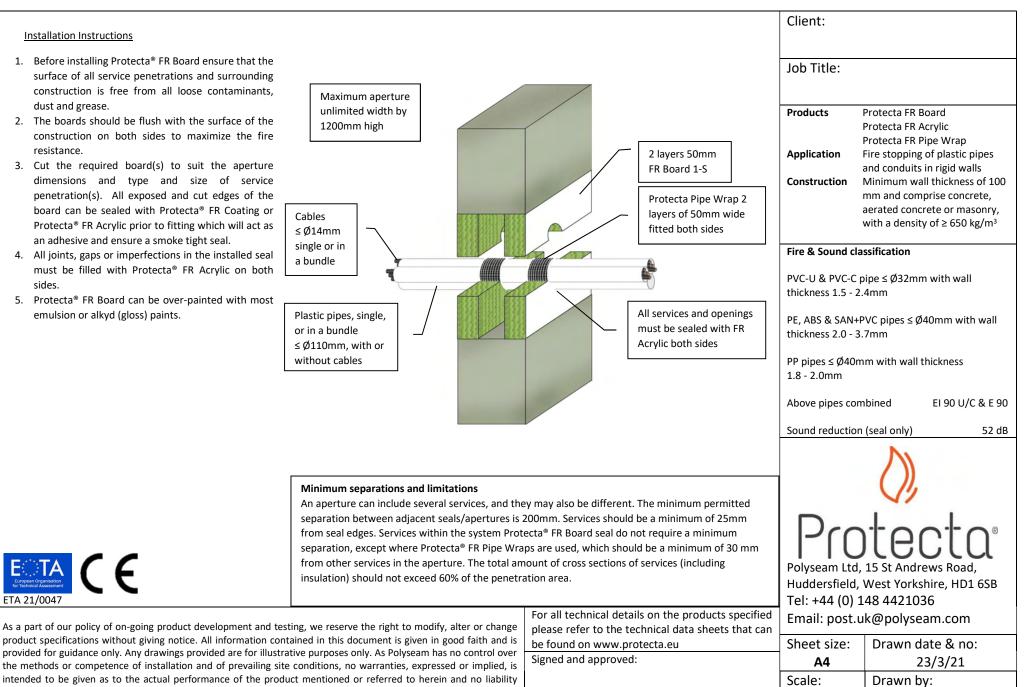




ECTA C C

ETA 21/0047

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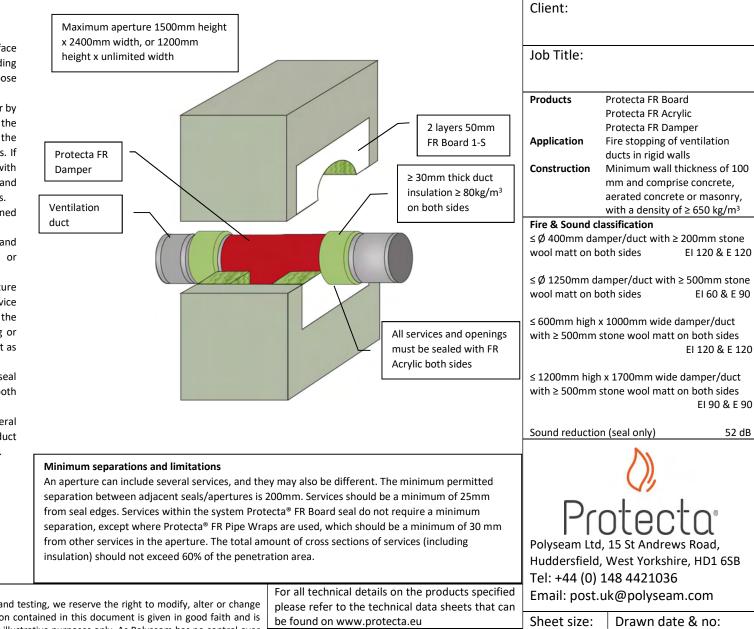


intended to be given as to the actual performance of the product mentioned or referred to herein and no liability whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

K.B

- 1. Before installing the fire seal 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. The dampers can be fitted in the apertures either by connecting them to the ventilation ducts before the fire seal is started, or fixed in the apertures with the fire seal, and connected to the ducts afterwards. If the latter, the dampers can be friction fitted with pieces of the boards, or install the boards first and make holes to friction fit the dampers afterwards.
- 3. The blades inside the damper must be aligned horizontally.
- 4. The boards should be installed back-to-back and positioned to either side of the construction or anywhere in between.
- 5. Cut the required boards 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.
- 6. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 7. Insulate the duct towards the fire seal with a mineral fibre mat, with or without aluminium foil. If the duct is ending in a wall then insulate on one side only.

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



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Signed and approved:

23/3/21

K.B

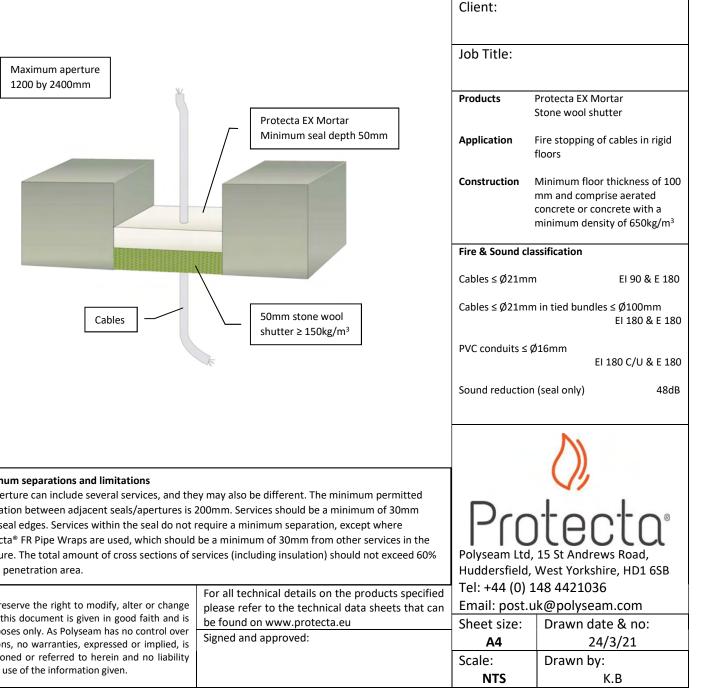
Drawn by:

A4

NTS

Scale:

- 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. 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.



ETA 21/0071

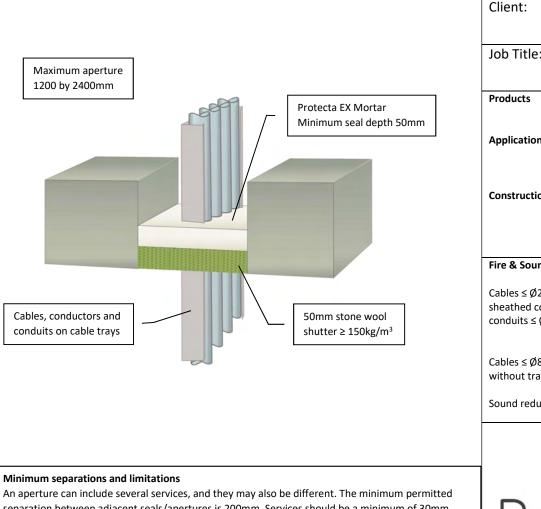
Minimum separations and limitations

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 where Protecta® FR Pipe Wraps are used, 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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- 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 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 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.





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	Tal. 144 (0)
For all technical details on the products specified	Tel: +44 (0)
please refer to the technical data sheets that can	Email: post
be found on www.protecta.eu	Sheet size:
Signed and approved:	A4
	Scale:

	Job Title:		
	Products	Protecta EX Mor Stone wool shut	
	Application	Fire stopping of conductors and cable trays in rig	conduits on
	Construction	Minimum floor t mm and compris concrete or cond minimum densit	se aerated crete with a
	Fire & Sound c	lassification	
	sheathed cond	m, single or bundl uctors ≤ 95mm² a mm, with or with	nd PVC
	Cables ≤ Ø80m without trays	m, single or bundl	ed, with or EI 45 & E 90
	Sound reductio	n (seal only)	48dB
		\mathcal{D}	
		47	
%	Huddersfield	l, 15 St Andrew , West Yorkshir	s Road,
ied can	,	148 4421036 uk@polyseam	1.com
Jun			

Drawn date & no:

Drawn by:

NTS

24/3/21

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 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.



Job Title: Maximum aperture 1200 by 2400mm Products Protecta EX Mortar Protecta EX Mortar Minimum seal depth 100mm Application Fire stopping of cables, conductors and conduits on cable trays in rigid floors Construction Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Cables ≤ 050 mm, single or bundled, nonsheathed conductors ≤ 95 mm² and PVC conduits ≤ 016 mm, with or without trays Cables, conductors and EI 60 & E 180 conduits on cable trays Cables ≤ 080 mm, single or bundled, with or without travs EI 60 & E 120 Sound reduction (seal only) 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 Protect 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road, aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com please refer to the technical data sheets that can be found on www.protecta.eu

Signed and approved:

Client:

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.

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48dB

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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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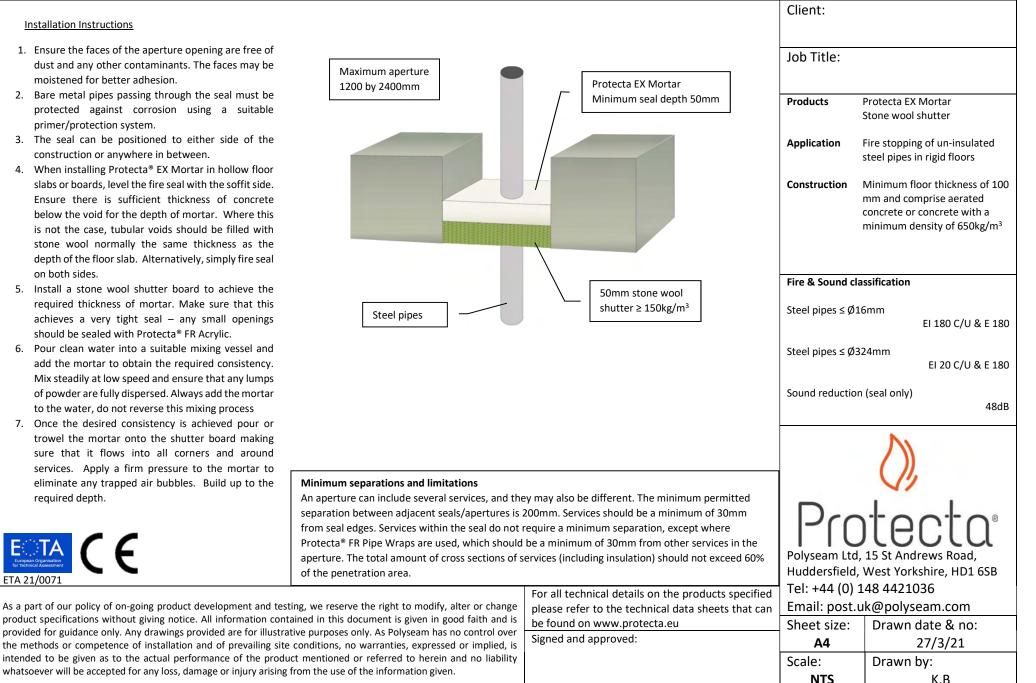
Installation Instructions			Client:	
 Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion. 	Maximum aperture 1200 by 2400mm		Job Title:	
 Bare metal passing through the seal must be protected against corrosion using a suitable 	1200 by 2400mm	Protecta EX Mortar	Products	Protecta EX Mortar
primer/protection system.3. The seal can be positioned to either side of the construction or anywhere in between.		Minimum seal depth 150mm		Fire stopping of cables and conductors on cable trays in rigid floors
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 the same thickness of the same thickness of the				Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal			Fire & Sound cla	ssification
on both sides. 5. Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a			Cables ≤ Ø21mn without trays ≤ !	n, single or bundled, with or 500mm wide EI 120 & E 240
very tight seal.6. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.	Cables and conductors on cable trays		Cables ≤ Ø50mn without trays ≤ !	n, single or bundled, with or 500mm wide EI 90 & E 240
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			Non-sheathed co without trays ≤ !	onductors ≤ 185mm², with or 500mm wide EI 120 & E 120
7. Once the desired consistency is achieved pour or	Loadbearing Properties		Sound reductior	i (seal only) 48dB
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		dy impact, safety in use 700Nm. Hard body impact use 10Nm. Concentrated load to 15kN on size up to up to 1200mm x 2400mm.		\mathbb{N}
required depth.	•	ey may also be different. The minimum permitted 200mm. Services should be a minimum of 30mm require a minimum separation, except where	Prr	viento"
ETA 21/0071		l be a minimum of 30mm from other services in the services (including insulation) should not exceed 60%	Huddersfield,	15 St Andrews Road, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and tes	sting, we reserve the right to modify, alter or change	For all technical details on the products specified please refer to the technical data sheets that can	Tel: +44 (0) 1 Email: post.u	L48 4421036 Jk@polyseam.com
product specifications without giving notice. All information com provided for guidance only. Any drawings provided are for illustra	tained in this document is given in good faith and is	be found on www.protecta.eu	Sheet size:	Drawn date & no:
the methods or competence of installation and of prevailing site		Signed and approved:	A4	24/3/21
intended to be given as to the actual performance of the produce whatsoever will be accented for any loss damage or injury arising			Scale:	Drawn by:

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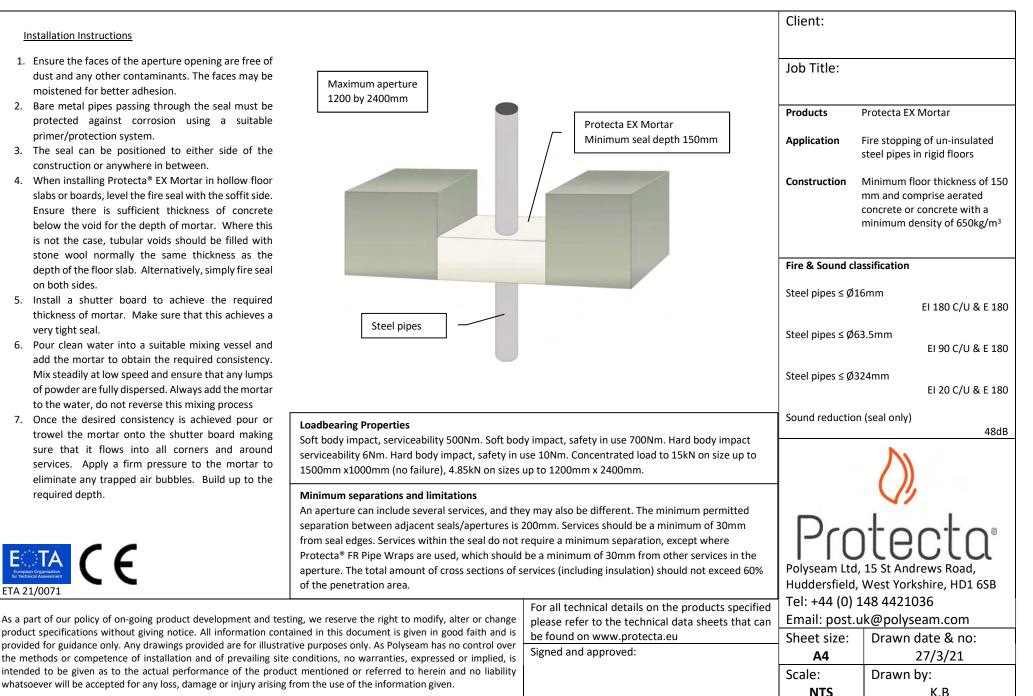
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- 4. When installing Protecta® EX Mortar in hollow floor slabs or boards. level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be filled with stone wool normally the same thickness as the depth of the floor slab. Alternatively, simply fire seal on both sides.
- 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 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
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- 3. When installing Protecta® EX Mortar in hollow slabs or boards, level the fire seal with the soffi Ensure there is sufficient thickness of cor below the void for the depth of mortar. When is not the case, tubular voids should be filled stone wool normally the same thickness a depth of the floor slab. Alternatively, simply fir on both sides.
- 4. Install a shutter board to achieve the rec thickness of mortar. Make sure that this achie very tight seal.
- 5. Pour clean water into a suitable mixing vesse add the mortar to obtain the required consist Mix steadily at low speed and ensure that any of powder are fully dispersed. Always add the n to the water, do not reverse this mixing proces
- 6. Once the desired consistency is achieved po trowel the mortar onto the shutter board m sure that it flows into all corners and a services. Apply a firm pressure to the mor eliminate any trapped air bubbles. Build up required depth.



Installation Instructions			Client:	
 Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be 	Maximum aperture 1200 by 2400mm		Job Title:	
 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 	Continuous elastomeric or phenolic foam insulation	Protecta EX Mortar Minimum seal depth 100mm	Application Construction	Protecta EX Mortar Protecta FR Pipe Wrap 25m Fire stopping of insulated steel pipes in rigid floors Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³
depth of the floor slab. Alternatively, simply fire seal on both sides.4. Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.		Protecta Pipe Wrap	Fire & Sound cla Steel pipes ≤ Ø12 2 layers of pipe v	ssification 2mm with 9mm insulation and wrap EI 240 C/C & E 240 0mm with 13mm insulation and
 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 	Steel pipes	50mm wide fitted at soffit	2 layers of pipe v Steel pipes $\leq \emptyset 10$	Omm with 25mm insulation and wrap EI 240 C/U & E 240 65mm with 13 - 19mm insul- f pipe wrap EI 120 C/U & E 180
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	Loadbearing Properties		Steel pipes ≤ Ø32 and 2 layers of p	24mm with 25mm insulation ipe wrap EI 120 C/U & E 240
eliminate any trapped air bubbles. Build up to the required depth.	Soft body impact, serviceability 500Nm. Soft bod	ly impact, safety in use 700Nm. Hard body impact use 10Nm. Concentrated load to 15kN on size up to up to 1200mm x 2400mm.		24mm with 26 - 50mm insul- of pipe wrap El 120 C/U & E 120
	Minimum separations and limitations An aperture can include several services, and the separation between adjacent seals/apertures is a from seal edges. Services within the seal do not a		Sound reduction	$\langle \rangle$
ETA 21/0071	Protecta [®] FR Pipe Wraps are used, which should	be a minimum of 30mm from other services in the ervices (including insulation) should not exceed 60%	Polyseam Ltd, Huddersfield,	15 St Andrews Road, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and test product specifications without giving notice. All information cont provided for guidance only. Any drawings provided are for illustra the methods or competence of installation and of prevailing site intended to be given as to the actual performance of the produ	ained in this document is given in good faith and is tive purposes only. As Polyseam has no control over conditions, no warranties, expressed or implied, is	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:	Sheet size: A4	Ik@polyseam.com Drawn date & no: 27/3/21
whatsoever will be accepted for any loss, damage or injury arising			Scale: NTS	Drawn by: K.B

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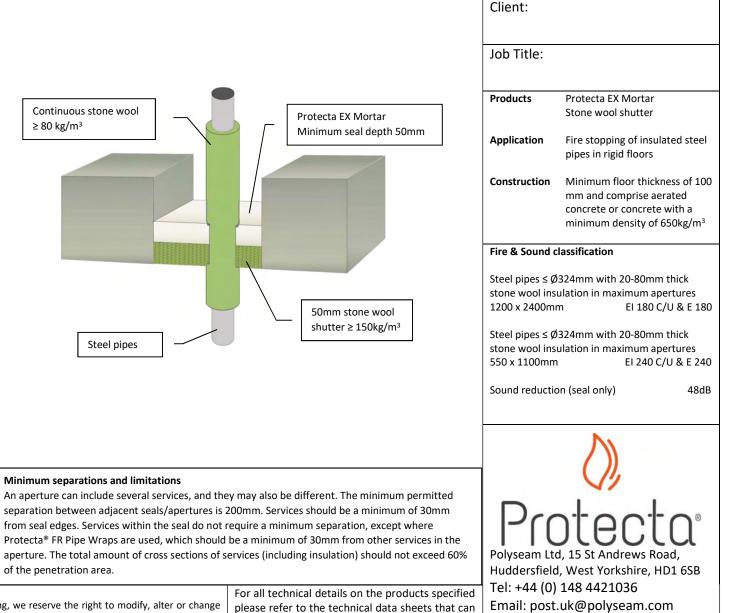
Client: Maximum aperture Job Title: 1200 by 2400mm Protecta EX Mortar Continuous PE foam Products Protecta EX Mortar Minimum seal depth 150mm insulation Protecta FR Pipe Wrap 25m Application Fire stopping of insulated steel pipes in rigid floors Minimum floor thickness of 150 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Steel pipes $\leq \emptyset 12$ mm with 9mm foam insulation and 1 layer of pipe wrap Protecta Pipe Wrap EI 180 C/U & E 180 50mm wide fitted at soffit Steel pipes \leq Ø76mm with 9mm foam insulation Steel pipes and 1 layer of pipe wrap EI 60 C/U & E 180 Steel pipes \leq Ø76mm with 10 - 30mm foam insulation and 2 layers of pipe wrap EI 60 C/U & E 180 Loadbearing Properties Sound reduction (seal only) 48dB 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 Protect 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road, aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 27/3/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

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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European Organisation for Technical Assessment

ETA 21/0071



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Job Title: Maximum aperture 1200 by 2400mm Products Protecta EX Mortar Continuous stone wool Protecta EX Mortar $\geq 80 \text{ kg/m}^3$ Application Fire stopping of insulated steel Minimum seal depth 100mm pipes in rigid floors Construction Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Steel pipes $\leq Ø324$ mm with 20-80mm thick stone wool insulation EI 240 C/U & E 240 Steel pipes 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 Proter 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road. aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: A4 27/3/21 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

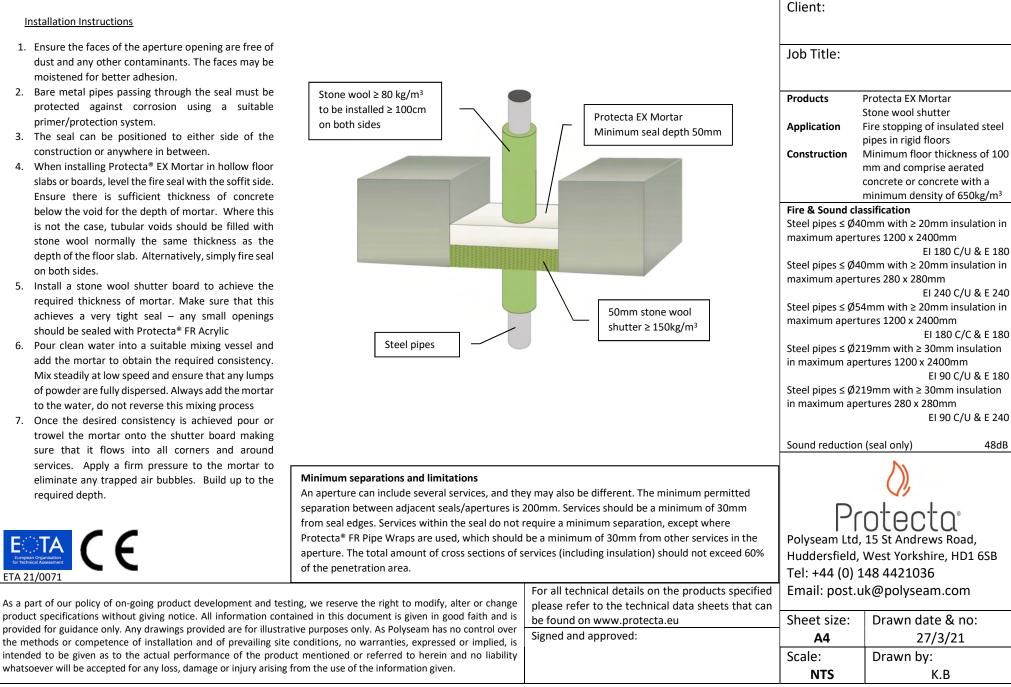
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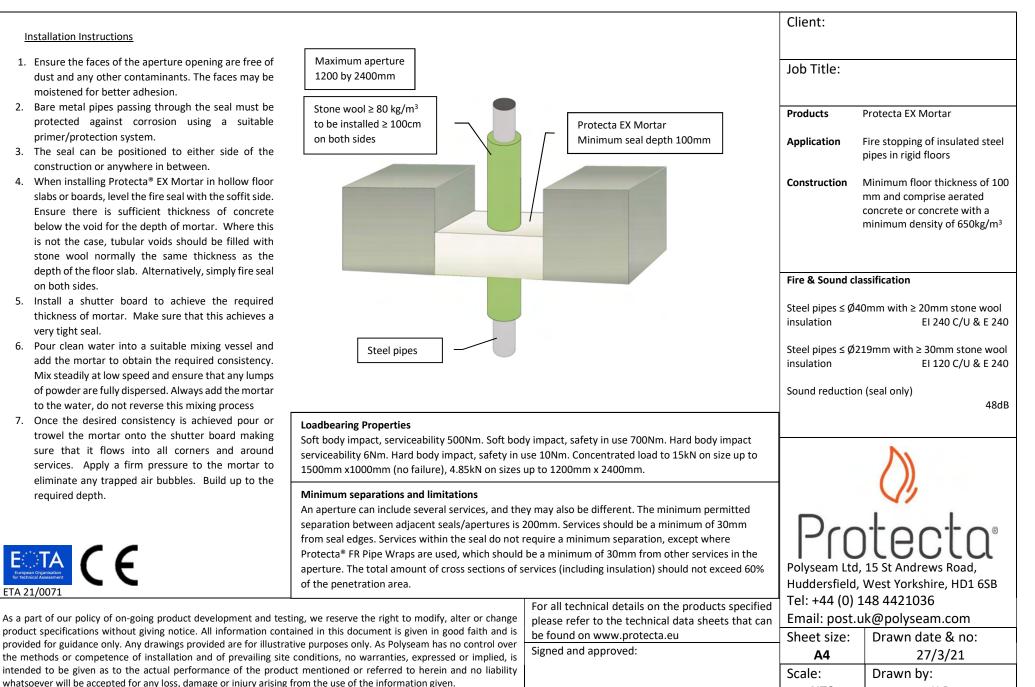


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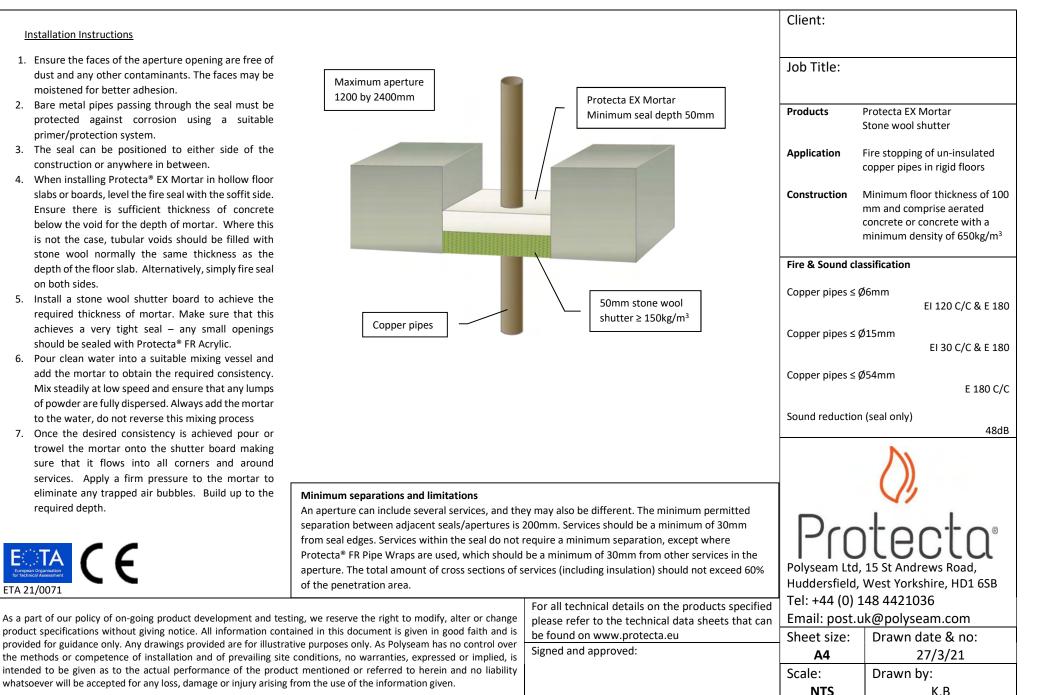




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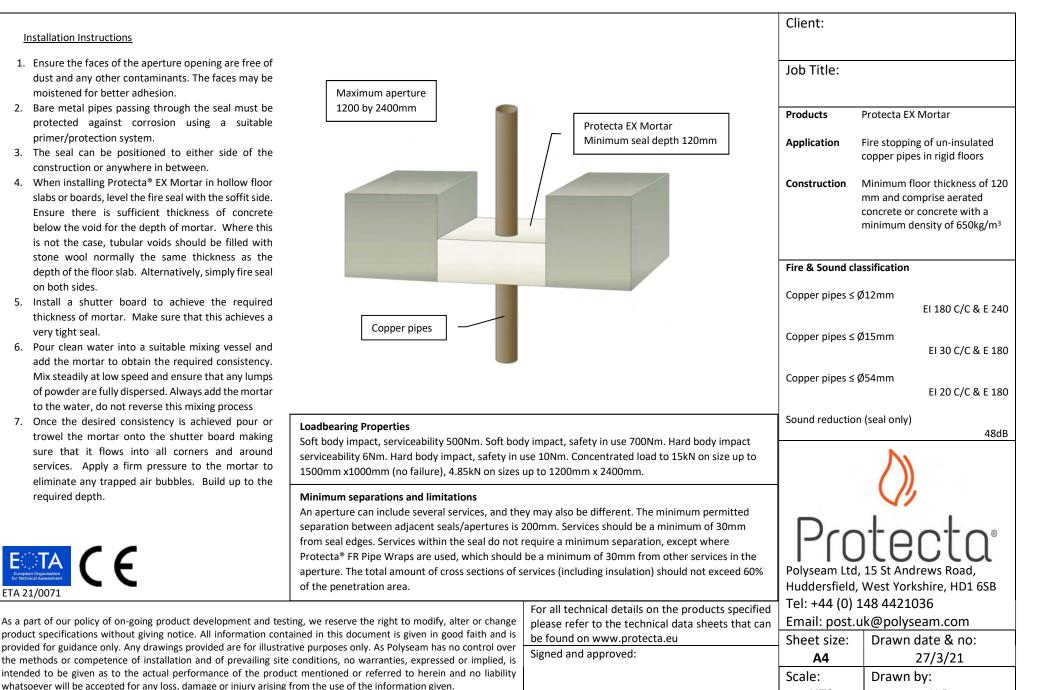
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- 3. When installing Protecta[®] EX Mortar in hollow floor slabs or boards. level the fire seal with the soffit side. Ensure there is sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids 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 shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
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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.



Client: Maximum aperture 1200 by 2400mm Job Title: Continuous elastomeric or phenolic foam Protecta EX Mortar Products Protecta EX Mortar insulation Minimum seal depth 100mm Protecta FR Pipe Wrap 25m Application Fire stopping of insulated copper pipes in rigid floors Construction Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Protecta Pipe Wrap Copper pipes $\leq \emptyset 12$ mm with 9mm foam 2 layers of 50mm wide fitted at soffit insulation EI 240 C/C & E 240 Copper pipes insulation EI 60 C/C & E 240 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 Protect 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road, aperture. The total amount of cross sections of services (including insulation) should not exceed 60% Huddersfield, West Yorkshire, HD1 6SB of the penetration area. Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 27/3/21 A4 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 Scale: Drawn by: whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. NTS K.B

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Minimum separations and limitations

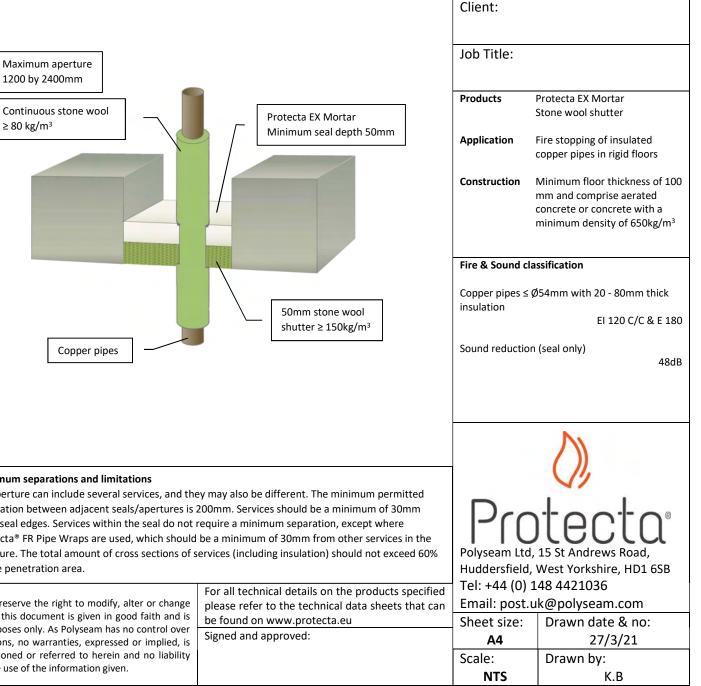
Maximum aperture

1200 by 2400mm

 $\geq 80 \text{ kg/m}^3$

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Job Title: Maximum aperture 1200 by 2400mm Products Protecta EX Mortar Continuous stone wool Protecta EX Mortar $\geq 80 \text{ kg/m}^3$ Application Fire stopping of insulated Minimum seal depth 100mm copper pipes in rigid floors Construction Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification insulation EI 120 C/C & E 180 Sound reduction (seal only) Copper pipes 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 Proton 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 where Protecta[®] FR Pipe Wraps are used, 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% Polyseam Ltd, 15 St Andrews Road, of the penetration area. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 27/3/21 A4 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 Scale: Drawn by:

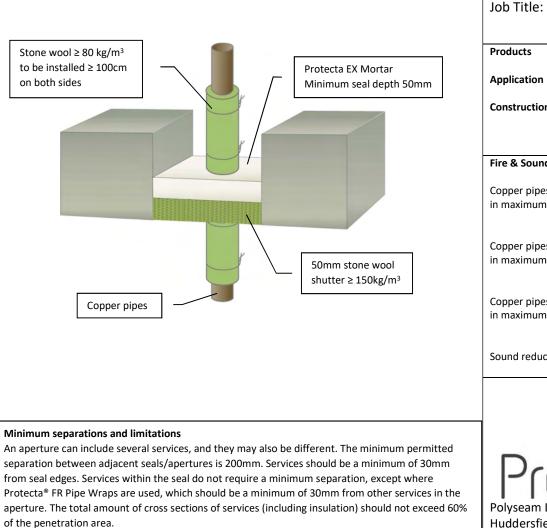
Client:

Page | 348

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.
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For all technical details on the products specified	Te
please refer to the technical data sheets that can	Er
be found on www.protecta.eu	Sł
Signed and approved:	
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	Job Title:	
	Products	Protecta EX Mortar
		Stone wool shutter
	Application	Fire stopping of insulated
		copper pipes in rigid floors
		Minimum floor thickness of 100
		mm and comprise aerated
		concrete or concrete with a minimum density of 650kg/m ³
	Fire & Sound cla	
	Copper pipes ≤ Ø	012mm with ≥ 20mm insulation
	in maximum ape	rtures 70 x 70mm
		EI 240 C/C & E 240
	Copper pipes $\leq Q$	954mm with ≥ 20mm insulation
		rtures 1200 x 2400mm
		EI 180 C/C & E 180
	Companying a d	
		954mm with ≥ 20mm insulation rtures 115 x 115mm
	in maximum upc	EI 180 C/C & E 240
	Sound reduction	(seal only) 48dB
		$\langle \rangle$
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, v		West Yorkshire, HD1 6SB
	Tel: +44 (0) 1	
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can		k@polyseam.com
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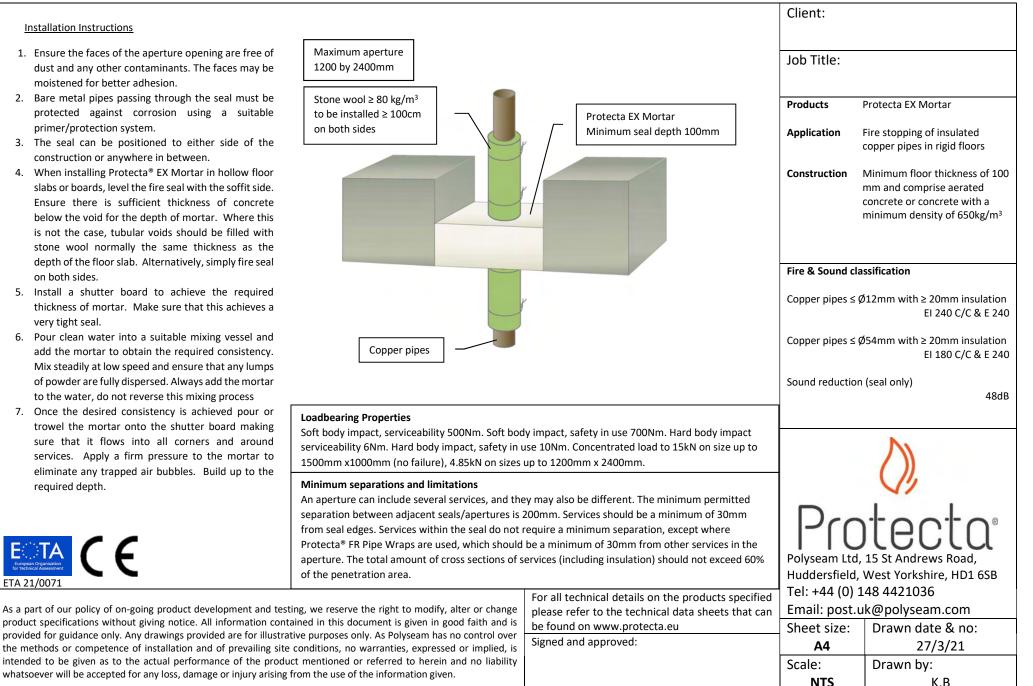
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Client:

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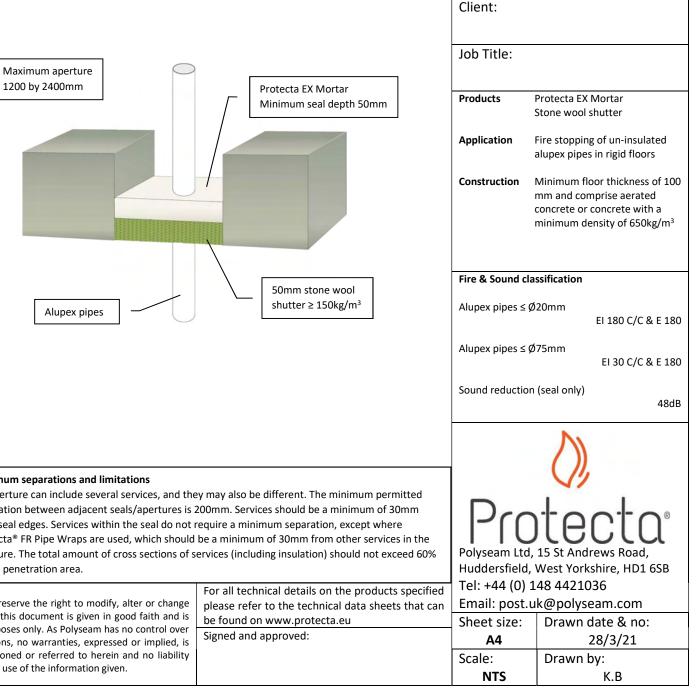
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Minimum separations and limitations

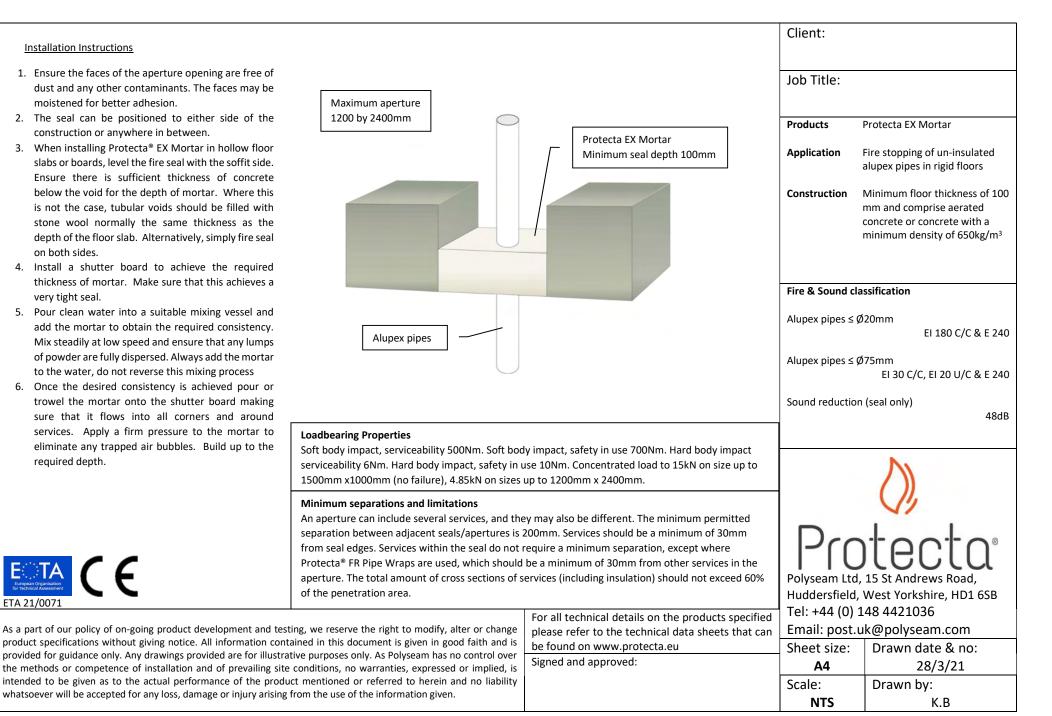
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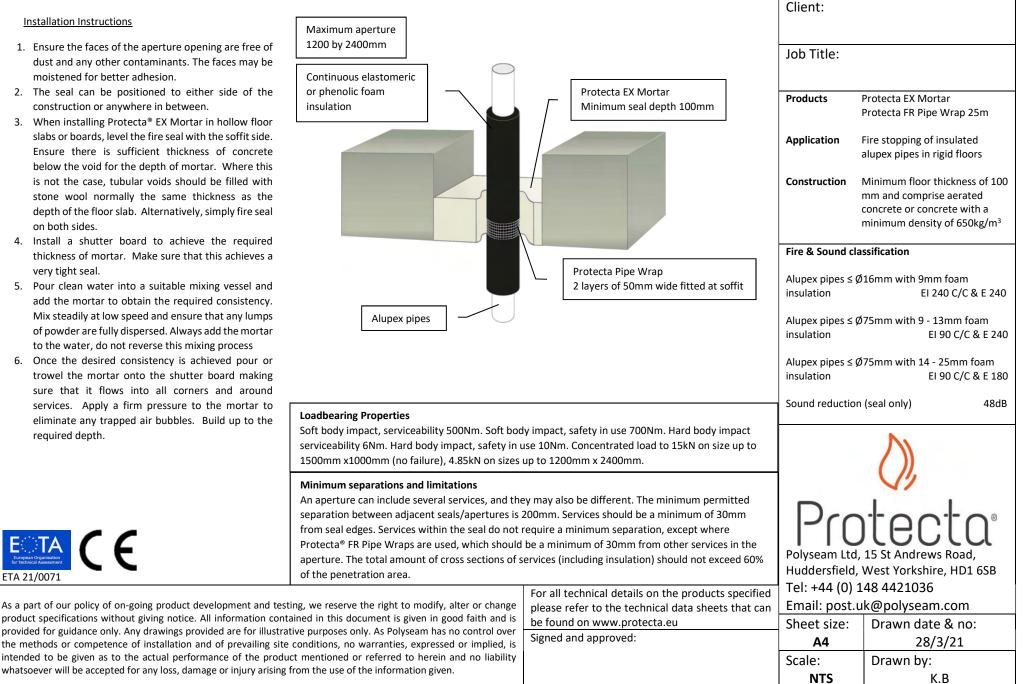
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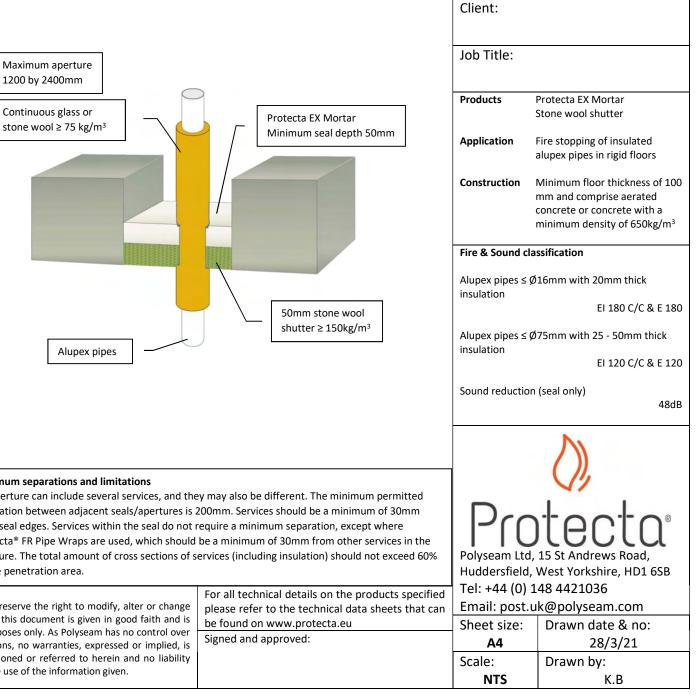


Minimum separations and limitations

1200 by 2400mm

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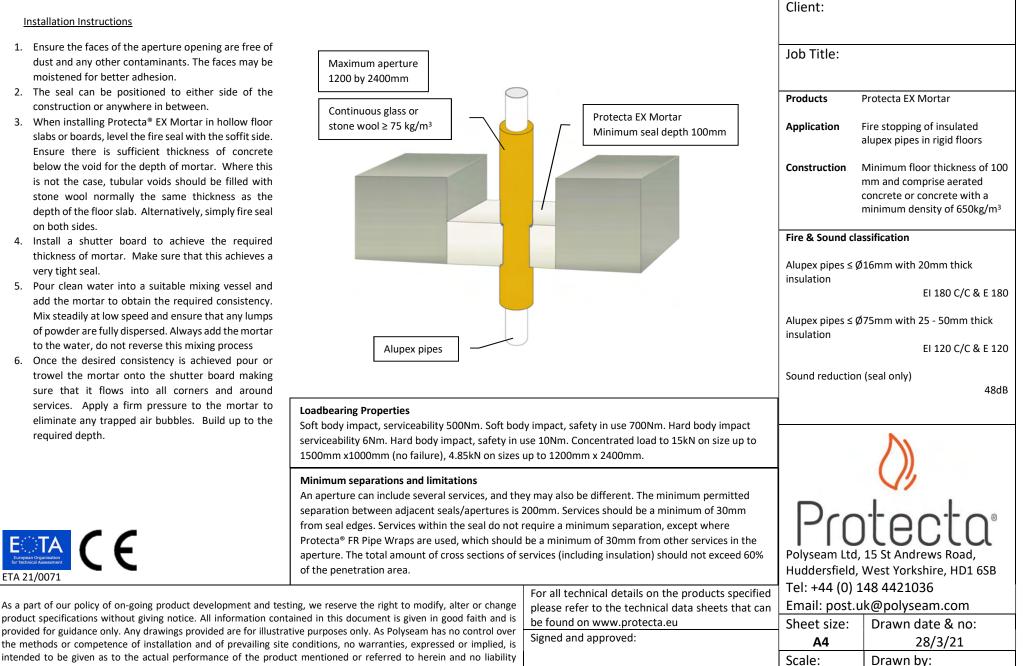
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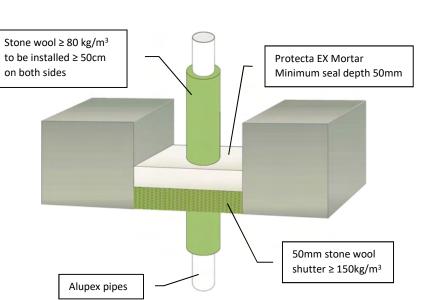


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European Organisation for Technical Assessment

ETA 21/0071



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	Fire & Sound clas	
	• • • •	16mm with ≥ 20mm insulation rtures 135 x 135mm EI 240 C/C & E 240
50mm stone wool shutter ≥ 150kg/m ³	• • •	75mm with ≥ 20mm insulation rtures 1200 x 2400mm EI 180 C/C & E 180
		75mm with ≥ 20mm insulation rtures 135 x 135mm El 180 C/C & E 240
	Sound reduction	(seal only) 48dB
y may also be different. The minimum permitted 200mm. Services should be a minimum of 30mm require a minimum separation, except where be a minimum of 30mm from other services in the	Pro) tecta
ervices (including insulation) should not exceed 60%	Polyseam Ltd, Huddersfield,	15 St Andrews Road, West Yorkshire, HD1 6SB
For all technical details on the products specified please refer to the technical data sheets that can	Tel: +44 (0) 1 Email: post.u	k@polyseam.com
be found on www.protecta.eu Signed and approved:	Sheet size: A4	Drawn date & no: 28/3/21
	Scale: NTS	Drawn by: K.B

Client:

Job Title:

Products

Application

Construction

Protecta EX Mortar

Stone wool shutter

Fire stopping of insulated

alupex pipes in rigid floors

Minimum floor thickness of 100

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Client: Maximum aperture Job Title: 1200 by 2400mm Stone wool $\geq 80 \text{ kg/m}^3$ Products Protecta EX Mortar Protecta EX Mortar to be installed \geq 50cm Minimum seal depth 100mm on both sides Application Fire stopping of insulated alupex pipes in rigid floors Construction Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Alupex pipes $\leq Ø16$ mm with ≥ 20 mm insulation EI 240 C/C & E 240 Alupex pipes \leq Ø75mm with \geq 20mm insulation EI 180 C/C & E 240 Alupex pipes 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 Protect 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 where Protecta[®] FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road, aperture. The total amount of cross sections of services (including insulation) should not exceed 60% Huddersfield, West Yorkshire, HD1 6SB of the penetration area. Tel: +44 (0) 148 4421036 For all technical details on the products specified Email: post.uk@polyseam.com please refer to the technical data sheets that can be found on www.protecta.eu Drawn date & no: Sheet size: Signed and approved: 28/3/21 A4 Scale: Drawn by:

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Minimum separations and limitations

Plastic pipes

An aperture can include several services, and they may also separation between adjacent seals/apertures is 200mm. Se from seal edges. Services within the seal do not require a m Protecta® FR Pipe Wraps are used, which should be a minin aperture. The total amount of cross sections of services (inc 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.

	Client:	
	Job Title:	
	Products	Protecta EX Mortar
Protecta EX Mortar		Stone wool shutter
Minimum seal depth 50mm	Application	Fire stopping of plastic pipes in rigid floors
	Construction	Minimum floor thickness of 100 mm and comprise aerated
		concrete or concrete with a minimum density of 650kg/m ³
	Fire & Sound classification PVC-U & PVC-C pipes ≤ Ø40mm with wall thickness 1.6 - 3.4mm in maximum apertures	
FEILERERE		
	1200 x 2400mm	EI 120 U/C & E 120
	PEX pipe-in-pipes ≤ Ø25mm in maximum apertures 1200 x 2400mm	
50mm stone wool		
shutter ≥ 150kg/m ³		EI 180 C/C & E 180
	PEX pipe-in-pipes $\leq \emptyset$ 25mm in maximum	
	apertures 550 x	1100mm EI 240 C/C & E 240
	Coursel and short in a	(
	Sound reduction (seal only) 48dB	
	\sim	
y may also be different. The minimum permitted	V 7	
200mm. Services should be a minimum of 30mm		1 1
equire a minimum separation, except where		tecta®
be a minimum of 30mm from other services in the	TIOLOGUU	
ervices (including insulation) should not exceed 60%		
		West Yorkshire, HD1 6SB
For all technical details on the products specified	Tel: +44 (0) 148 4421036	
please refer to the technical data sheets that can	Email: post.uk@polyseam.com	
be found on www.protecta.eu	Sheet size:	Drawn date & no:
Signed and approved:	A4	28/3/21
	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. 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 shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 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.

whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.



Client: Job Title: Maximum aperture 1200 by 2400mm Products Protecta EX Mortar Protecta EX Mortar Application Fire stopping of plastic pipes in Minimum seal depth 100mm rigid floors Construction Minimum floor thickness of 100 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification PVC-U & PVC-C pipes ≤ 040 mm with wall thickness 1.6 - 3.4mm EI 120 U/C & E 120 PE, ABS & SAN+PVC pipes $\leq \emptyset$ 40mm with wall thickness 1.8-4.4mm EI 120 U/C & E 120 **Plastic pipes** PP pipes ≤ 040 mm with wall thickness 1.8-4.4mm EI 120 U/C & E 120 PEX pipe-in-pipes $\leq Ø25$ mm EI 240 C/C & E 240 Loadbearing Properties Sound reduction (seal only) 48dB 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 Protect 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 where Protecta® FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road, aperture. The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area. Huddersfield, West Yorkshire, HD1 6SB Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 28/3/21 A4 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 Scale: Drawn by:

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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. 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 shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
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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.

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Client: Job Title: Maximum aperture 1200 by 2400mm Products Protecta EX Mortar Protecta EX Mortar Protecta FR Pipe Wrap 25m Minimum seal depth 100mm Application Fire stopping of plastic pipes in rigid floors Minimum floor thickness of 100 Construction mm and comprise aerated concrete or concrete with a minimum density of 650kg/m³ Fire & Sound classification Protecta Pipe Wrap EI 120 C/C & E 120 Plastic pipes 2 lavers of 50mm wide fitted at soffit 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 where Protecta[®] FR Pipe Wraps are used, which should be a minimum of 30mm from other services in the Polyseam Ltd, 15 St Andrews Road, aperture. The total amount of cross sections of services (including insulation) should not exceed 60% Huddersfield, West Yorkshire, HD1 6SB of the penetration area. Tel: +44 (0) 148 4421036 For all technical details on the products specified As a part of our policy of on-going product development and testing, we reserve the right to modify, alter or change Email: post.uk@polyseam.com please refer to the technical data sheets that can product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu Drawn date & no: Sheet size: provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over Signed and approved: 28/3/21 A4 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 Scale: Drawn by:

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- 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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Installation Instructions	Maximum aperture 1200 by 2400mm	Protecta EX Mortar Minimum seal depth 100mm	Client:
 Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion. 			Job Title:
 The seal can be positioned to either side of the construction or anywhere in between. When installing Protecta[®] EX Mortar in hollow floor 			Products Protecta EX Mortar Protecta FR Pipe Wrap 25m
S. When installing Protecta ² EX Mortal in hollow hoor 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	Plastic pipes	Protecta FR Pipe Wrap fitted at soffit	Application Fire stopping of plastic pipes in rigid floors
is not the case, tubular voids should be filled with stone wool normally the same thickness as the	Services Pipe Wa Thicknes		Construction Minimum floor thickness of 100 mm and comprise aerated
depth of the floor slab. Alternatively, simply fire seal on both sides.4. Install a shutter board to achieve the required	≤ Ø40mm PVC-U & PVC-C 1.8 – 3.7mr ≤ Ø40mm PE, ABS & SAN+PVC 2.4 – 3.7mr ≤ Ø40mm PP 1.8 – 5.5mr	n 50 x 1.8mm (1 layer) EI 240 U/U (E 240 U/U)	concrete or concrete with a minimum density of 650kg/m ³
thickness of mortar. Make sure that this achieves a very tight seal.	≤ Ø110mm PVC-U & PVC-C 1.9 – 6.6mr ≤ Ø110mm PE, ABS & SAN+PVC 2.5 – 10.0m ≤ Ø110mm PP 1.9 – 6.3mr	n 50 x 3.6mm (2 layers) El 240 U/C (E 240 U/C) im 50 x 3.6mm (2 layers) El 120 U/C (E 120 U/C)	Fire & Sound classification
Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.	≤ Ø125mm PVC-U & PVC-C 3.5 – 7.4mr ≤ Ø125mm PE, ABS & SAN+PVC 3.9 – 11.4m	n 50 x 7.2mm (4 layers) El 120 U/C (E 120 U/C) m 50 x 7.2mm (4 layers) El 240 U/C (E 240 U/C)	Fire classifications in table on the left.
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	≤ Ø125mm PP 3.4 – 11.4m ≤ Ø160mm PVC-U & PVC-C 4.5 – 9.5mm ≤ Ø160mm PVC-U & PVC-C 4.5mm		Sound reduction (seal only) 48dB
 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 	≤ Ø160mm PVC-U & PVC-C 9.5mm ≤ Ø160mm PE, ABS & SAN+PVC 4.9 – 14.6m ≤ Ø160mm PP 4.9 – 14.6m	50 x 10.8mm (6 layers) EI 90 U/C (E 90 U/C) im 50 x 10.8mm (6 layers) EI 120 U/C (E 120 U/C)	
services. Apply a firm pressure to the mortar to eliminate any trapped air bubbles. Build up to the	Loadbearing Properties Soft body impact, serviceability 500Nm. Soft body	dy impact, safety in use 700Nm. Hard body impact]
required depth.		use 10Nm. Concentrated load to 15kN on size up to	
		ey may also be different. The minimum permitted 200mm. Services should be a minimum of 30mm require a minimum separation, except where	Protecta
		l be a minimum of 30mm from other services in the services (including insulation) should not exceed 60%	Polyseam Ltd, 15 St Andrews Road, Huddersfield, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and tes product specifications without giving notice. All information cont	e . b	For all technical details on the products specified please refer to the technical data sheets that can be found on www.protecta.eu	Email: post.uk@polyseam.com
provided for guidance only. Any drawings provided are for illustrative methods or competence of installation and of prevailing site	tive purposes only. As Polyseam has no control over conditions, no warranties, expressed or implied, is	Signed and approved:	Sheet size: Drawn date & no: A4 28/3/21
intended to be given as to the actual performance of the produce whatsoever will be accepted for any loss damage or injury arising			Scale: Drawn by:

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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. 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.
- 4. Install a shutter board to achieve the required thickness of mortar. Make sure that this achieves a verv tight seal.
- 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.

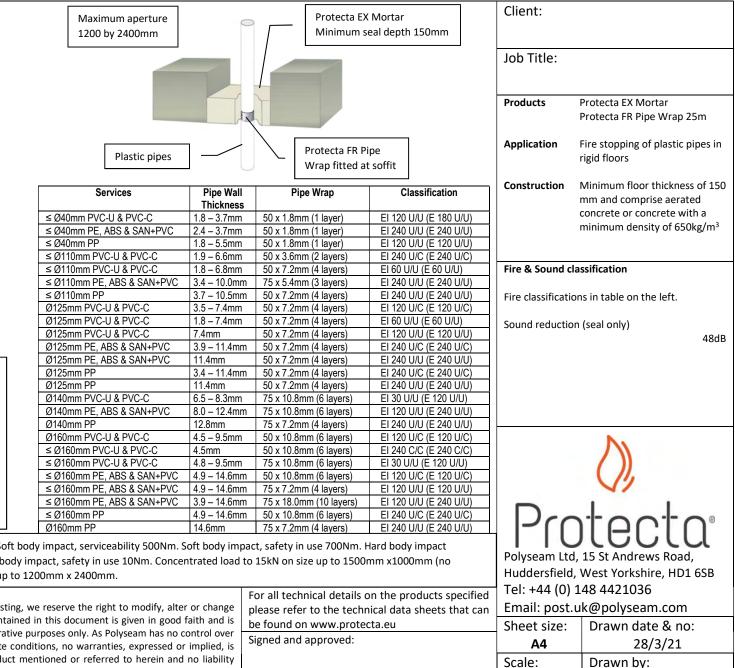
Minimum separations and limitations

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 where Protecta® FR Pipe Wraps are used, 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.



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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- 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 shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
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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.



Installation Instructions	Maximum aperture 1200 by 2400mm	Protecta EX Mortar Minimum seal depth 150mm	Client:
 Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion. 			Job Title:
2. The seal can be positioned to either side of the construction or anywhere in between.			Products Protecta EX Mortar Protecta FR Pipe Wrap 25m
 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 	Plastic pipes	Protecta FR Pipe Wrap fitted at soffit	ApplicationFire stopping of very large plastic pipes in rigid floors
is not the case, tubular voids should be filled with stone wool normally the same thickness as the		Wall Pipe Wrap Classification	Construction Minimum floor thickness of 150 mm and comprise aerated
depth of the floor slab. Alternatively, simply fire seal on both sides.4. Install a shutter board to achieve the required	Ø161-199mm PVC-U & PVC-C 4.5 - 7 Ø200mm PVC-U & PVC-C 4.9 - 7	1.9mm 75 x 10.8mm (6 layers) EI 120 C/C (E 120 C/C) 1.9mm 75 x 10.8mm (6 layers) EI 240 C/C (E 240 C/C) 1.9mm 75 x 18.0mm (10 layers) EI 120 C/C (E 120 C/C)	concrete or concrete with a minimum density of 650kg/m ³
thickness of mortar. Make sure that this achieves a	Ø315mm PVC-U & PVC-C 7.7mn Ø315mm PVC-U & PVC-C 7.8 – 7	75 x 18.0mm (10 layers) EI 120 C/C (E 120 C/C) 2.1mm 75 x 18.0mm (10 layers) EI 90 C/C (E 90 C/C)	Fire & Sound classification
very tight seal.5. Pour clean water into a suitable mixing vessel and add the mortar to obtain the required consistency.		5.3mm 75 x 28.8mm (16 layers) EI 60 C/C (E 60 C/C) n 75 x 28.8mm (16 layers) EI 60 C/C (E 60 C/C)	Fire classifications in table on the left.
Mix steadily at low speed and ensure that any lumps of powder are fully dispersed. Always add the mortar	Ø200mm PE, ABS & SAN+PVC 6.2 – Ø250mm PE, ABS & SAN+PVC 7.8mn	8.2mm 75 x 10.8mm (6 layers) EI 240 C/C (E 240 C/C)	Sound reduction (seal only) 48dB
to the water, do not reverse this mixing process6. Once the desired consistency is achieved pour or trowel the mortar onto the shutter board making	Ø161-200mm PP 4.9 – 7 Ø201-315mm PP 4.9 – 7	8.2mm 75 x 10.8mm (6 layers) El 240 C/C (E 240 C/C)	
sure that it flows into all corners and around services. Apply a firm pressure to the mortar to		8.6mm 75 x 28.8mm (16 layers) EI 60 C/C (E 60 C/C)	-
eliminate any trapped air bubbles. Build up to the required depth.	Loadbearing Properties Soft body impact, s 700Nm. Hard body impact serviceability 6N load to 15kN on size up to 1500mm x1000n	n <u>193 20.00000000000000000000000000000000000</u>	
	Minimum separations and limitations An aperture can include several services, ar	d they may also be different. The minimum permitted	V 2
	separation between adjacent seals/apertur from seal edges. Services within the seal do	es is 200mm. Services should be a minimum of 30mm not require a minimum separation, except where ould be a minimum of 30mm from other services in the	Protecta
		s of services (including insulation) should not exceed 60%	Huddersfield, West Yorkshire, HD1 6SB
As a part of our policy of on-going product development and test product specifications without giving notice. All information cont.	o		n Email: post.uk@polyseam.com
provided for guidance only. Any drawings provided are for illustrative methods or competence of installation and of prevailing site	tive purposes only. As Polyseam has no control o	ver Signed and approved:	Sheet size: Drawn date & no: A4 28/3/21
intended to be given as to the actual performance of the produ whatsoever will be accepted for any loss, damage or injury arising	ct mentioned or referred to herein and no liab		Scale:Drawn by:NTSK.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 shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
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Installation Instruction	<u>s</u>	Maximum aperture 1200 by 2400mm	Protecta EX Minimum s	Mortar eal depth 100mm	Client:	
dust and any other c moistened for better					Job Title:	
construction or anyw	sitioned to either side of the vhere in between. ecta [®] EX Mortar in hollow floor		R		Products	Protecta EX Mortar Protecta FR Pipe Wrap 25m
slabs or boards, level Ensure there is su	the fire seal with the soffit side. fficient thickness of concrete ne depth of mortar. Where this	Composite plastic pipes	Protecta F Wrap fitte	· ·	Application	Fire stopping of composite plastic pipes in rigid floors
	alar voids should be filled with				Construction	Minimum floor thickness of 100
,	ly the same thickness as the	Services	Pipe Wrap	Classification		mm and comprise aerated
	•	Ø 32mm Aquatherm Green SDR9 pipes	50 x 1.8mm (1 layer)	EI 240 C/C (E 240 C/C)		concrete or concrete with a
	b. Alternatively, simply fire seal	≤ Ø 110mm Aquatherm Green SDR9 pipes	50 x 3.6mm (2 layers)	EI 240 C/C (E 240 C/C)		minimum density of 650kg/m ³
on both sides.		≤ Ø 50mm BluePower pipes	50 x 3.6mm (2 layers)	EI 240 U/U (E 240 U/U)		minimum density of osokg/m
	pard to achieve the required	≤ Ø 110mm BluePower pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)		
thickness of mortar.	Make sure that this achieves a	Ø 125mm BluePower pipes	50 x 7.2mm (4 layers)	EI 120 U/C (E 120 U/C)	Fire & Sound cla	actification
very tight seal.		Ø 160mm BluePower pipes	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C)		assilication
5. Pour clean water int	to a suitable mixing vessel and	≤ Ø 50mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)	Cine also sificatio	and in table and the laft
	btain the required consistency.	≤ Ø 110mm Geberit Silent-PP pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)	Fire classificatio	ns in table on the left.
	peed and ensure that any lumps	≤Ø 110mm Polo-Kal NG pipes	50 x 3.6mm (2 layers)	EI 180 U/C (E 180 U/C)		<i>i</i>
		Ø 125mm Polo-Kal NG pipes	50 x 7.2mm (4 layers)	EI 240 U/C (E 240 U/C)	Sound reduction	
	ispersed. Always add the mortar	Ø 160mm Polo-Kal NG pipes	50 x 10.8mm (6 layers)	EI 240 U/C (E 240 U/C) EI 120 U/U (E 120 U/U)		48dB
	reverse this mixing process	≤ Ø 50mm Rehau Raupiano Plus pipes ≤ Ø 110mm Rehau Raupiano Plus pipes	50 x 3.6mm (2 layers) 50 x 3.6mm (2 layers)	EI 120 0/0 (E 120 0/0) EI 120 U/C (E 120 U/C)		
	onsistency is achieved pour or	Ø 125mm Rehau Raupiano Plus pipes	50 x 7.2mm (4 layers)	EI 120 U/C (E 240 U/C)		
trowel the mortar o	onto the shutter board making	Ø 160mm Rehau Raupiano Plus pipes	50 x 10.8mm (6 layers)	EI 120 U/C (E 120 U/C)		
sure that it flows	into all corners and around	Ø 50mm Uponor Decibel pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)		
services. Apply a fi	irm pressure to the mortar to	≤ Ø 110mm Uponor Decibel pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)		
eliminate any trappe	ed air bubbles. Build up to the	≤ Ø 50mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 120 U/U (E 120 U/U)		
required depth.	· · · · · · · · · · · · · · · · · · ·	≤ Ø 110mm Wavin SiTech pipes	50 x 3.6mm (2 layers)	EI 120 U/C (E 120 U/C)		
	Minimum separations and lim				1	
		al services, and they may also be different. The min	nimum nermitted senarat	ion between adjacent		()).
		vices should be a minimum of 30mm from seal ed		2		V
	-					
		ecta [®] FR Pipe Wraps are used, which should be a r				
	aperture. The total amount of	cross sections of services (including insulation) she	ould not exceed 60% of th	e penetration area.		
		Loadbaaring Dreparties Coft had virgenest some	issahilitu FOONes. Caft ha	huimment sefetuin use		
	•	Loadbearing Properties Soft body impact, serv	•	, , , ,	Polyseam Ltd	, 15 St Andrews Road,
European Organisation for Technical Assessment		700Nm. Hard body impact serviceability 6Nm.			1 '	West Yorkshire, HD1 6SB
ETA 21/0071	-	load to 15kN on size up to 1500mm x1000mm	(no failure), 4.85kN on siz	es up to 1200mm x 2400mm.	· · · · · ·	
			For all technical deta	ils on the products specified	ן ופו: +44 (0) נ	148 4421036
As a part of our policy of on-	-going product development and tes	ting, we reserve the right to modify, alter or change	please refer to the te	chnical data sheets that can	Email: post.	uk@polyseam.com
product specifications without giving notice. All information contained in this document is given in good faith and is be found on www.protecta.eu						Drawn date & no:
provided for guidance only. Any drawings provided are for illustrative purposes only. As Polyseam has no control over						
		e conditions, no warranties, expressed or implied, is			A4	28/3/21
0		uct mentioned or referred to herein and no liability			Scale:	Drawn by:
whatsoever will be accepted	for any loss, damage or injury arising	from the use of the information given.			NTS	K.B
					1413	N.D

- 1. Ensure the faces of the aperture opening are free dust and any other contaminants. The faces may moistened for better adhesion.
- 2. The seal can be positioned to either side of construction or anywhere in between.
- 3. When installing Protecta® EX Mortar in hollow flo slabs or boards. level the fire seal with the soffit sid Ensure there is sufficient thickness of concre below the void for the depth of mortar. Where the is not the case, tubular voids should be filled w stone wool normally the same thickness as depth of the floor slab. Alternatively, simply fire se on both sides.
- 4. Install a shutter board to achieve the requir thickness of mortar. Make sure that this achieve very tight seal.
- 5. Pour clean water into a suitable mixing vessel a add the mortar to obtain the required consistent Mix steadily at low speed and ensure that any lum of powder are fully dispersed. Always add the more to the water, do not reverse this mixing process
- 6. Once the desired consistency is achieved pour trowel the mortar onto the shutter board maki sure that it flows into all corners and arou services. Apply a firm pressure to the mortar eliminate any trapped air bubbles. Build up to required depth.



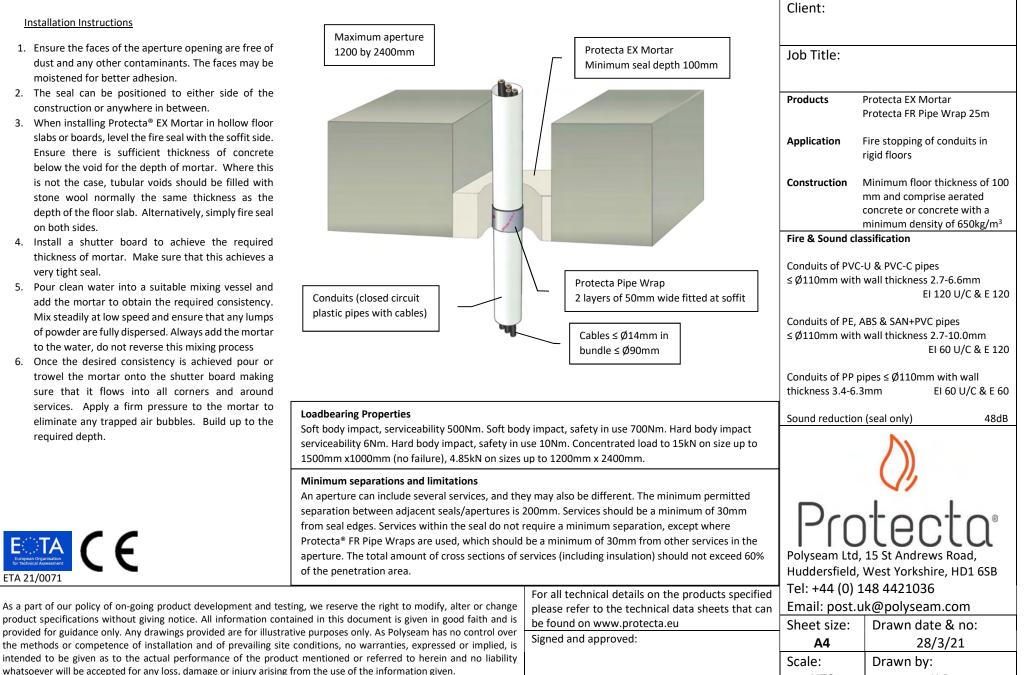
Installation Instructions			Client:	
 Ensure the faces of the aperture opening are free of dust and any other contaminants. The faces may be moistened for better adhesion. 	Maximum aperture 1200 by 2400mm 9 – 50mm thick		Job Title:	
 The seal can be positioned to either side of the construction or anywhere in between. 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 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 	9 – Somm thick continuous elastomeric or phenolic foam insulation Plastic pipes	Protecta EX Mortar Minimum seal depth 120mm	Application Construction Fire & Sound cla PE, ABS and SAN 3.0 - 9.5mm, ≤ Ø layers of 50mm PE, ABS and SAN 3.0 - 9.5mm, ≤ Ø layers of 75mm PE pipes ≤ Ø160 9.5mm, and ≤ Ø layers of 75mm	Protecta EX Mortar Protecta FR Pipe Wrap 25m Fire stopping of insulated plastic pipes in rigid floors Minimum floor thickness of 120 mm and comprise aerated concrete or concrete with a minimum density of 650kg/m ³ issification H-PVC pipes with wall thickness 68mm incl. insulation with 2 pipe wrap EI 240 C/C & E 240 H-PVC pipes with wall thickness 5178mm incl. insulation with 6 pipe wrap EI 240 C/C & E 240 mm with wall thickness 3.0 - 260mm incl. insulation with 10 pipe wrap EI 120 C/C & E 120 all thickness 1.8 – 9.1mm,
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 bod serviceability 6Nm. Hard body impact, safety in u 1500mm x1000mm (no failure), 4.85kN on sizes	≤ Ø68mm incl. insulation with 2 layers of 50mm pipe wrap El 180 C/C & E 240 PP pipes with wall thickness 1.8 – 9.1mm, ≤ Ø178mm incl. insulation with 6 layers of		
Естрал Огданатоп Бог перпол Казанатоп По т перпол Казанатоп	separation between adjacent seals/apertures is a from seal edges. Services within the seal do not Protecta [®] FR Pipe Wraps are used, which should	ey may also be different. The minimum permitted 200mm. Services should be a minimum of 30mm require a minimum separation, except where be a minimum of 30mm from other services in the services (including insulation) should not exceed 60%	S \emptyset 178mm nicl. insulation with 6 layers of75mm pipe wrapFI 240 C/C & EPP pipes $\leq \emptyset$ 160mm with wall thickness 1.89.1mm, and $\leq \emptyset$ 260mm incl. insulation withlayers of 75mm pipe wrapEI 120 C/C & ESound reduction (seal only)	
ETA 21/0071 As a part of our policy of on-going product development and tes product specifications without giving notice. All information com provided for guidance only. Any drawings provided are for illustra the methods or competence of installation and of prevailing site intended to be given as to the actual performance of the produ	tained in this document is given in good faith and is tive purposes only. As Polyseam has no control over e conditions, no warranties, expressed or implied, is	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:	Tel: +44 (0) 1	Huddersfield, UK 48 4421036 ik@polyseam.com Drawn date & no: 28/3/21
whatsoever will be accepted for any loss, damage or injury arising	,		Scale:	Drawn by:

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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. 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 shutter board to achieve the required thickness of mortar. Make sure that this achieves a very tight seal.
- 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.



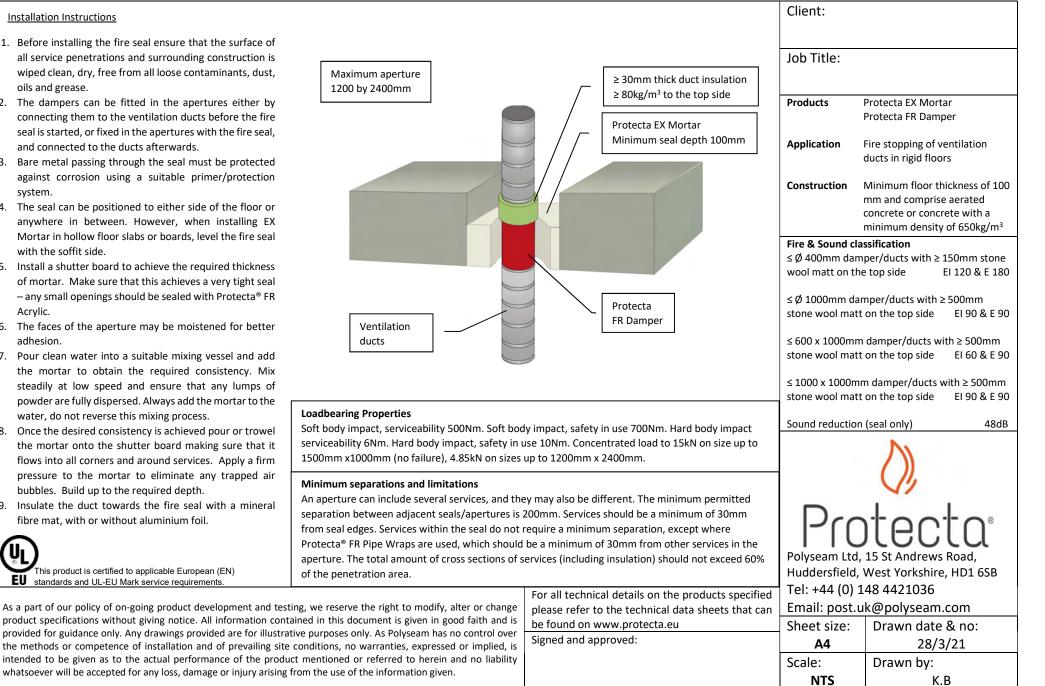


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- 1. Before installing the fire seal ensure that the surface of all service penetrations and surrounding construction is wiped clean, dry, free from all loose contaminants, dust, oils and grease.
- 2. The dampers can be fitted in the apertures either by connecting them to the ventilation ducts before the fire seal is started, or fixed in the apertures with the fire seal, and connected to the ducts afterwards.
- Bare metal passing through the seal must be protected 3. against corrosion using a suitable primer/protection system.
- 4. The seal can be positioned to either side of the floor or anywhere in between. However, when installing EX Mortar in hollow floor slabs or boards. level the fire seal with the soffit side.
- 5. Install a 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 Acrvlic.
- 6. The faces of the aperture may be moistened for better adhesion.
- 7. 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.
- 8. 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.
- 9. Insulate the duct towards the fire seal with a mineral fibre mat. with or without aluminium foil.

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

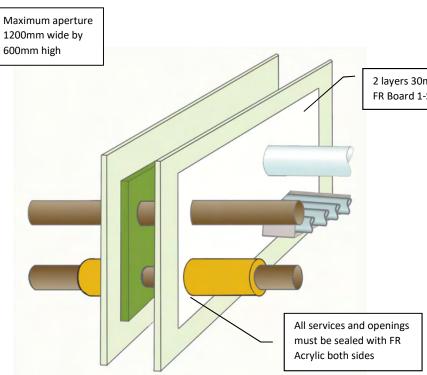


Appendix IV

Apertures with mixed services

-

- 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 boards 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.
- 6. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 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 separation between adjacent seals/apertures is 200mm. Services should be a from seal edges. Services within the system Protecta® FR Board seal do not re separation, except where Protecta® FR Pipe Wraps are used, which should be from other services in the aperture. The total amount of cross sections of ser insulation) should not exceed 60% of the penetration area.

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	MI	XED SERVICE APERTURE Fire Classification EI 30 Sound Reduction 29 dB	
	Installation details - Page 1 of 2		
2 layers 30mm FR Board 1-S	Products	Protecta FR Board Protecta FR Acrylic Minimum wall thickness of 75 mm and comprise steel studs or timber studs* lined on both faces with minimum 1 layer of	
R		12.5 mm thick boards	
	Services		
	 Cables and cab Conduits Steel pipes Plastic pipes 	le trays	
		ion see next page.	
All services and openings	Indoor air comfor	t test results	
must be sealed with FR Acrylic both sides	• Italian CAM – F	omponents – Pass	
ey may also be different. The minimum permitted 200mm. Services should be a minimum of 25mm ecta [®] FR Board seal do not require a minimum ps are used, which should be a minimum of 30mm nount of cross sections of services (including	Belgian Regula	tion – Pass Directive – Compliant – Compliant Pass	
For all technical details on the products specified please refer to the technical data sheets that can be found on http://www.protecta.eu			
Polyseam Ltd, 15 St Andrews Road, Huddersfield,			
West Yorkshire, HD1 6SB, United Kingdom	Scale:	Drawn by & date:	

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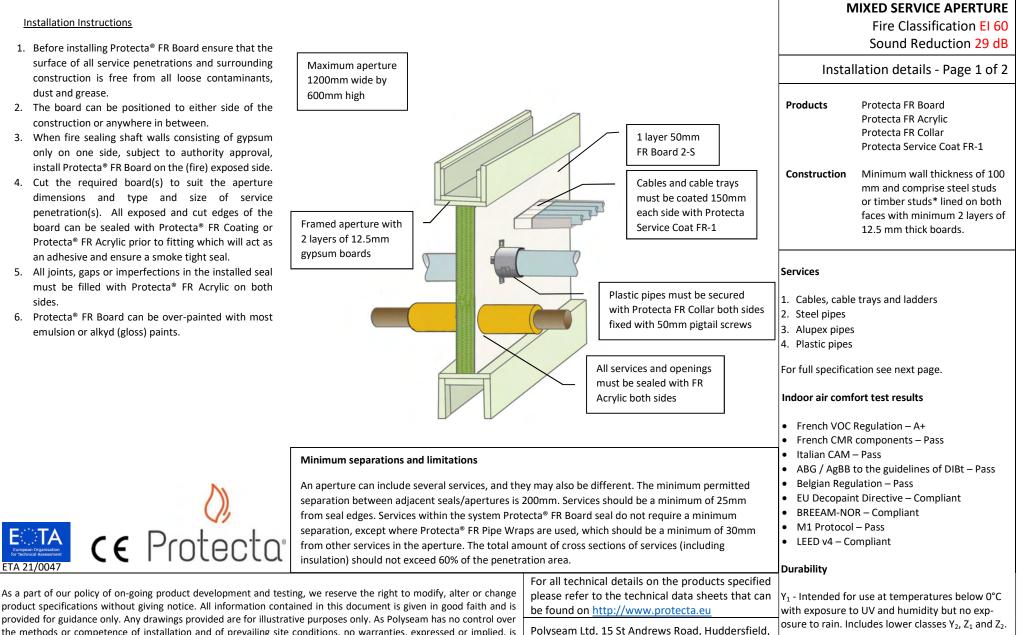
K.B. 14/9/21

Fire Classification El 30

Sound Reduction 29 dB

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	-	-	-
Plastic conduits, with or without cable trays	≤ Ø32mm per conduit	-	-	-
	≤ Ø22mm per pipe	-	None	-
Steel pipes C/U	≤Ø324mm per pipe	-	20-30mm thick continuous stone wool \ge 80kg/m ³	-
PVC-U and PVC-C pipes	≤Ø32mm per pipe	1.0 – 1.8mm	None	None

- 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. 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.
- 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.



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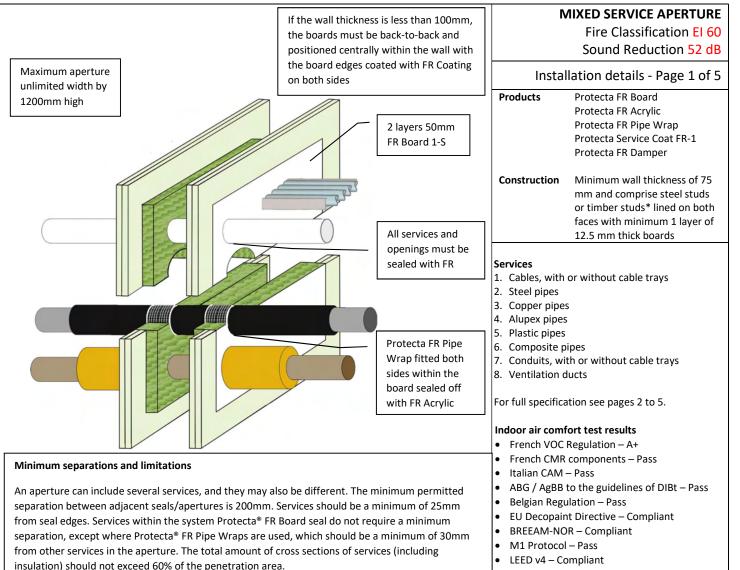
Fire Classification El 60

Sound Reduction 29 dB

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	-	-	300μ WFT Protecta Service Coat FR-1
Steel pipes C/U	≤ Ø324mm per pipe	-	20-30mm thick continuous stone wool ≥ 80 kg/m ³	-
Alupex pipes C/C	≤ Ø75mm per pipe	-	25mm continuous glass or stone wool ≥ 75kg/m ³	-
Alupex pipes C/C	≤ Ø16mm per pipe	-	9mm thick continuous elastomeric or PE foam	Protecta FR Collar 50mm high ≤ Ø40mm
Alupex pipes C/C	≤ Ø75mm per pipe	-	25mm thick continuous elastomeric or PE foam	Protecta FR Collar 60mm high Ø125mm
PVC-U and PVC-C pipes U/C	≤ Ø110mm per pipe	1.9 – 6.6mm		Protecta FR Collar 50mm high ≤ Ø110mm
PVC-U and PVC-C pipes C/C	≤ Ø160mm per pipe	3.1 – 9.5mm	None	Protecta FR Collar 60mm high ≤ Ø160mm
PE, ABS and SAN+PVC pipes C/C	≤ Ø110mm per pipe	3.0 – 10.0mm		Protecta FR Collar 50mm high ≤ Ø110mm
PE, ABS and SAN+PVC pipes C/C	≤ Ø160mm per pipe	3.9 – 9.5mm		Protecta FR Collar 60mm high ≤ Ø160mm
PP pipes C/C	≤ Ø90mm per pipe	1.8 – 4.6mm		Protecta FR Collar 50mm high ≤ Ø90mm
PP pipes C/C	≤ Ø160mm per pipe	2.7 – 9.1mm		Protecta FR Collar 60mm high ≤ Ø160mm

- 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 coated side of the boards should, when possible, 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, and any visible mineral fibres must be coated with Protecta[®] FR Coating.
- 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	Durability			
please refer to the technical data sheets that can	Y ₁ - Intended for use at temperatures below 0°C with exposure to UV and humidity but no exp-			
Polyseam Ltd, 15 St Andrews Road, Huddersfield,	osure to rain. Includes lower classes Y_2 , Z_1 and Z_2 .			
West Yorkshire, HD1 6SB, United Kingdom	Scale:	Drawn by & date:		
Tel: +44 (0) 1484 421 036	NTS	K.B. 14/9/21		

Fire Classification El 60

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Cables, single or bundled, with or w/o trays	≤ Ø80mm per cable	-	-	-	-
	≤Ø22mm per pipe	-	None	C/U	-
	≤Ø63mm per pipe	-	≥ 1150µ WFT x 200mm length Protecta Service Coat FR-1 both sides	C/C	-
	≤Ø63mm per pipe	-	≥ 2300µ WFT x 200mm length Protecta Service Coat FR-1 both sides	C/U	-
	≤Ø40mm per pipe	-	13mm thick continuous elastomeric or PE	U/U	1 layer of 50mm wide both sides
	≤Ø54mm per pipe	-	9mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
	≤Ø165mm per pipe	-	13 - 32mm thick continuous elastomeric or PE	U/U	2 layers of 50mm wide both sides
Charles in an	≤Ø324mm per pipe	-	32 - 50mm thick continuous elastomeric or PE	C/U	3 layers of 50mm wide both sides
Steel pipes	≤Ø16mm per pipe	-	15mm thick continuous phenolic	C/U	1 layer of 50mm wide both sides
	≤Ø273mm per pipe	-	25 - 100mm thick continuous phenolic	C/U	1 layer of 50mm wide both sides
	≤Ø15mm per pipe	-	20mm thick continuous glass wool \geq 75kg/m ³	C/C	-
	≤Ø54mm per pipe	-	40mm thick continuous glass wool \geq 75kg/m ³	C/C	-
	≤Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \geq 80kg/m ³	C/U	-
	≤Ø40mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø219mm per pipe	-	\geq 30mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø6mm per pipe	-	None	C/C	-
	≤Ø54mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Copper pipes	≤Ø15mm per pipe	-	20mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤Ø54mm per pipe	-	40mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤Ø54mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/C	-
	≤Ø20mm per pipe	-	None	C/C	-
	≤Ø75mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Alupex pipes	≤ Ø75mm per pipe	-	25 - 60mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
	≤Ø75mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/C	-

					MIXED SERVICE APERTURE Fire Classification EI 60 Sound Reduction 52 dB
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe	List of services - Page 3 of 5 Pipe Wraps
	≤ 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
	≤ 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
	≤ Ø125mm per pipe	3.7-7.4mm	-	U/C	3 layers of 50mm wide both sides
PVC-U & PVC-C pipes	≤ Ø160mm per pipe	4.0-9.5mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	4.9-11.9mm	-	C/C	6 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
	≤ 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
	≤ Ø68mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
	≤ 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
PE, ABS and SAN+PVC pipes	≤ Ø160mm per pipe	4.9-14.6mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø178mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or PE	C/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	6.2-18.2mm	-	C/C	6 layers of 50mm wide both sides
	≤ Ø260mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or PE	C/C	10 layers of 50mm wide both sides
	≤ Ø315mm per pipe	18.7mm	-	C/C	10 layers of 50mm wide both sides
	≤ Ø400mm per pipe	23.7mm	-	C/C	16 layers of 50mm wide both sides

Fire Classification EI 60

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ 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
	≤ Ø68mm per pipe incl. insul.	1.8-14.6mm	9 - 50mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
	≤ Ø110mm per pipe	2.7-15.1mm	-	U/U	2 layers of 50mm wide both sides
DD pipes	≤ Ø125mm per pipe	3.1-17.1mm	-	U/C	3 layers of 50mm wide both sides
PP pipes	≤ Ø160mm per pipe	4.9-21.9mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø178mm per pipe incl. insul.	1.8-14.6mm	9 - 50mm thick continuous elastomeric or PE	C/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	4.9-18.2mm	-	C/C	6 layers of 50mm wide both sides
	≤ Ø260mm per pipe incl. insul.	1.8-14.6mm	9 - 50mm thick continuous elastomeric or PE	C/C	10 layers of 50mm wide both sides
	≤ Ø315mm per pipe	28.6mm	-	C/C	10 layers of 50mm wide both sides
	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
	≤ 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
	≤ Ø160mm per pipe	-	-	U/C	6 layers of 50mm wide both sides
Cabarit Clant DD sizes	≤ 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
	≤ Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Polo-Kal 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
	≤ 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

Fire Classification EI 60

Sound Reduction 52 dB

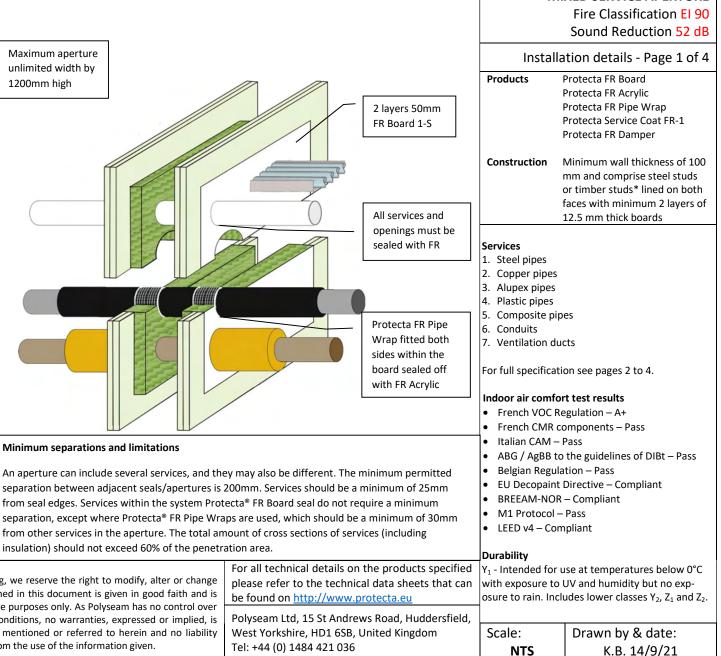
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Uponor Decibel pipes	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide both sides
	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Weyin Citash sizes	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide both sides
Wavin SiTech pipes	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Steel or plastic conduits, with or w/o trays	≤Ø16mm per conduit	Any	-	C/U	-
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
	≤Ø32mm PVC-U & PVC-C	1.5-2.4mm			
Plastic pipe bundles ≤ Ø110mm with or without cables ≤ Ø14mm	≤ Ø40mm PE and ABS	2.0-3.7mm] -	U/C	2 layers of 50mm wide both sides
	≤Ø40mm PP	1.8-2.0mm			
	≤Ø400mm	-	≥ 30mm thick x 20cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper
Ventilation ducts	≤Ø1250mm	-	≥ 30mm thick x 50cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper
	≤ 1200mm high x 1700mm w	-	≥ 30mm thick x 50cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper

- 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 boards 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.
- 6. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 7. 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 where Protecta[®] FR Pipe Wraps are used, 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 90

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø63mm per pipe	-	\geq 1150 μ WFT x 200mm length Protecta Service Coat FR-1 both sides	C/C	-
	≤ Ø40mm per pipe	-	13mm thick continuous elastomeric or PE	U/U	1 layer of 50mm wide both sides
	≤ Ø324mm per pipe	-	32 - 50mm thick continuous elastomeric or PE	C/U	3 layers of 50mm wide both sides
Charlin Labora	≤ Ø16mm per pipe	-	15mm thick continuous phenolic	C/U	1 layer of 50mm wide both sides
Steel pipes	≤ Ø273mm per pipe	-	25 - 100mm thick continuous phenolic	C/U	1 layer of 50mm wide both sides
	≤ Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/U	-
	≤ Ø40mm per pipe	-	\ge 20mm thick x 500mm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤ Ø219mm per pipe	-	\geq 30mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤ Ø54mm per pipe	-	9 - 13mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Copper pipes	≤ Ø54mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/C	-
	≤ Ø20mm per pipe	-	None	C/C	-
	≤ Ø75mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Alupex pipes	≤ Ø75mm per pipe	-	25 - 60mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
	≤ Ø16mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/C	-
	≤ 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
	≤ 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	3.7-7.4mm	-	U/C	3 layers of 50mm wide both sides
PVC-U & PVC-C pipes	≤ Ø200mm per pipe	4.9-11.9mm	-	C/C	6 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 90

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø40mm per pipe	2.4-3.7mm	-	υ/υ	1 layer of 50mm wide both sides
	≤ Ø110mm per pipe	4.2-10.0mm	-	U/C	2 layers of 50mm wide both sides
PE, ABS and SAN+PVC pipes	≤ Ø125mm per pipe	4.8-12.0mm	-	U/C	3 layers of 50mm wide both sides
	≤ Ø200mm per pipe	6.2-18.2mm	-	C/C	6 layers of 50mm wide both sides
	≤ Ø40mm per pipe	1.8-5.5mm	-	υ/υ	1 layer of 50mm wide both sides
DD piper	≤ Ø110mm per pipe	2.7-15.1mm	-	U/U	2 layers of 50mm wide both sides
PP pipes	≤ Ø125mm per pipe	3.1-17.1mm	-	U/C	3 layers of 50mm wide both sides
	≤ Ø200mm per pipe	4.9-18.2mm	-	C/C	6 layers of 50mm wide both sides
Asuatharm Cross CDD0 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
	≤ 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
	≤ Ø160mm per pipe	-	-	U/C	6 layers of 50mm wide both sides
Cabarit Silant DD nings	≤ Ø50mm per pipe	-	-	υ/υ	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
Dela Kal NC nines	≤ Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Polo-Kal 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
Pahau Pauniana Dlus 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

Fire Classification El 90

Sound Reduction 52 dB

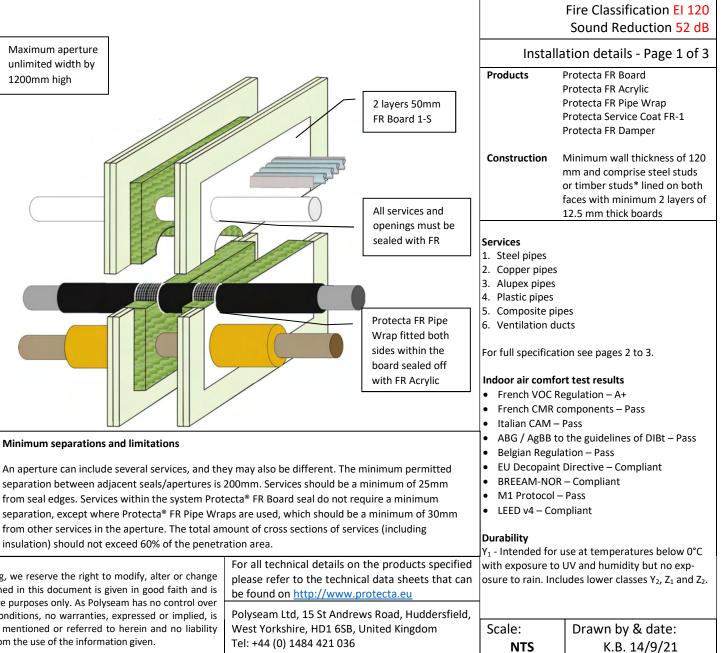
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps	
Unener Desided mines	≤ Ø50mm per pipe	-	-	υ/υ	2 layers of 50mm wide both sides	
Uponor Decibel pipes	≤ Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides	
Wavin SiTech pipes	≤ Ø50mm per pipe	-	-	υ/υ	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	
	≤Ø32mm PVC-U & PVC-C	1.5-2.4mm				
Plastic pipe bundles ≤ Ø110mm with or without cables ≤ Ø14mm	≤ Ø40mm PE and ABS	2.0-3.7mm]-	U/C	2 layers of 50mm wide both sides	
	≤Ø40mm PP	1.8-2.0mm]			
Ventilation ducts	≤ Ø400mm	-	\geq 30mm thick x 20cm long stonewool mat \geq 80kg/m ³ both sides	-	Protecta FR Damper	
	≤ 1200mm high x 1700mm w	-	\geq 30mm thick x 50cm long stonewool mat \geq 80kg/m ³ both sides	-	Protecta FR Damper	

- 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 boards 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.
- 6. All joints, gaps or imperfections in the installed seal must be filled with Protecta® FR Acrylic on both sides.
- 7. 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 where Protecta[®] FR Pipe Wraps are used, 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

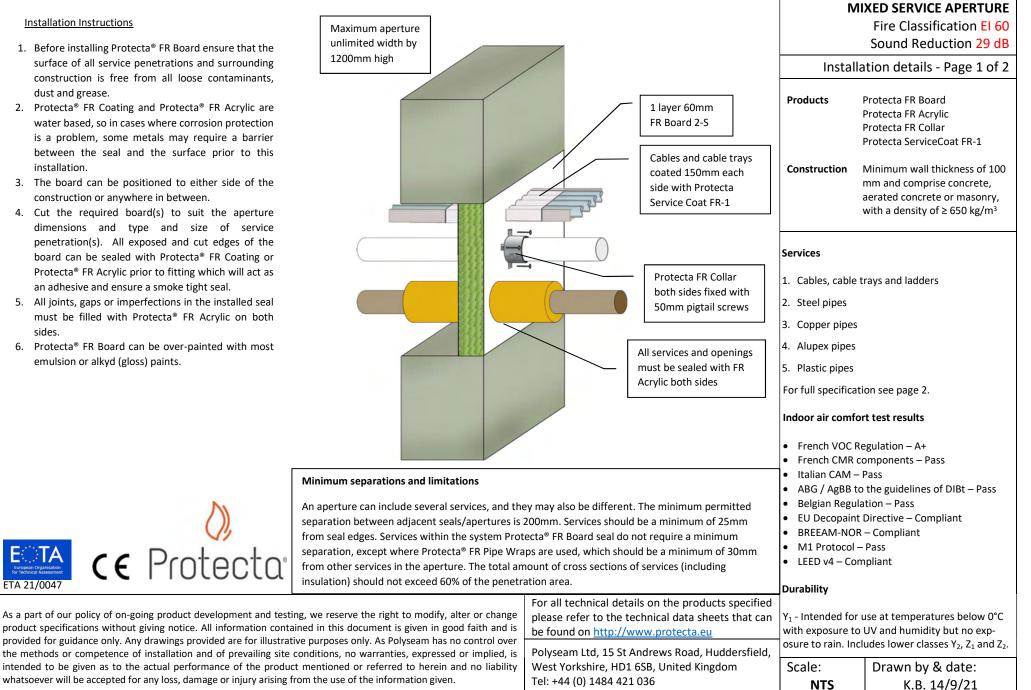
Fire Classification El 120

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤Ø63mm per pipe	-	\ge 1150 μ WFT x 200mm length Protecta Service Coat FR-1 both sides	C/C	-
Charles in an	≤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 \geq 80kg/m ³	C/U	-
	≤Ø40mm per pipe	-	\ge 20mm thick x 500mm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤Ø12mm per pipe	-	9 mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Copper pipes	≤Ø54mm per pipe	-	\ge 20mm thick x 500mm long stone wool \ge 80 kg/m ³ 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
	≤Ø16mm per pipe	-	\ge 20mm thick x 500mm long stone wool \ge 80 kg/m ³ both sides	C/C	-
	≤Ø40mm per pipe	1.9 - 3.0mm	-	U/U	1 layer of 50mm wide both sides
PVC-U & PVC-C pipes	≤Ø110mm per pipe	2.7 - 6.6mm	-	C/C	2 layers of 50mm wide both sides
	≤Ø160mm per pipe	4.0 - 9.5mm	-	C/C	6 layers of 50mm wide both sides
	≤Ø40mm per pipe	2.4 - 3.7mm	-	U/U	1 layer of 50mm wide both sides
	≤Ø40mm per pipe	3.8 - 4.6mm	-	C/C	1 layer of 50mm wide both sides
PE, ABS and SAN+PVC pipes	≤Ø110mm per pipe	3.4 - 10.0mm	-	C/C	2 layers of 50mm wide both sides
	≤Ø160mm per pipe	4.9 - 14.6mm	-	C/C	6 layers of 50mm wide both sides
	≤Ø40mm per pipe	1.8 - 5.5mm	-	U/U	1 layer of 50mm wide both sides
PP pipes	≤Ø110mm per pipe	2.7 - 10.0mm	-	C/C	2 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
Coborit Silont DD pings	≤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

					MIXED SERVICE APERTURE
					Fire Classification El 120
					Sound Reduction 52 dB
					List of services - Page 3 of 3
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø50mm per pipe	-	-	υ/υ	2 layers of 50mm wide both sides
	≤ Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Polo-Kal 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	-	-	υ/υ	2 layers of 50mm wide both sides
Pohau Pauniano Dius 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
Ventilation ducts	≤ Ø400mm	-	≥ 30mm thick x 20cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper
	≤ 600mm high x 1000mm w	-	\geq 30mm thick x 50cm long stonewool mat \geq 80kg/m ³ both sides	-	Protecta FR Damper

- 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 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.
- 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.

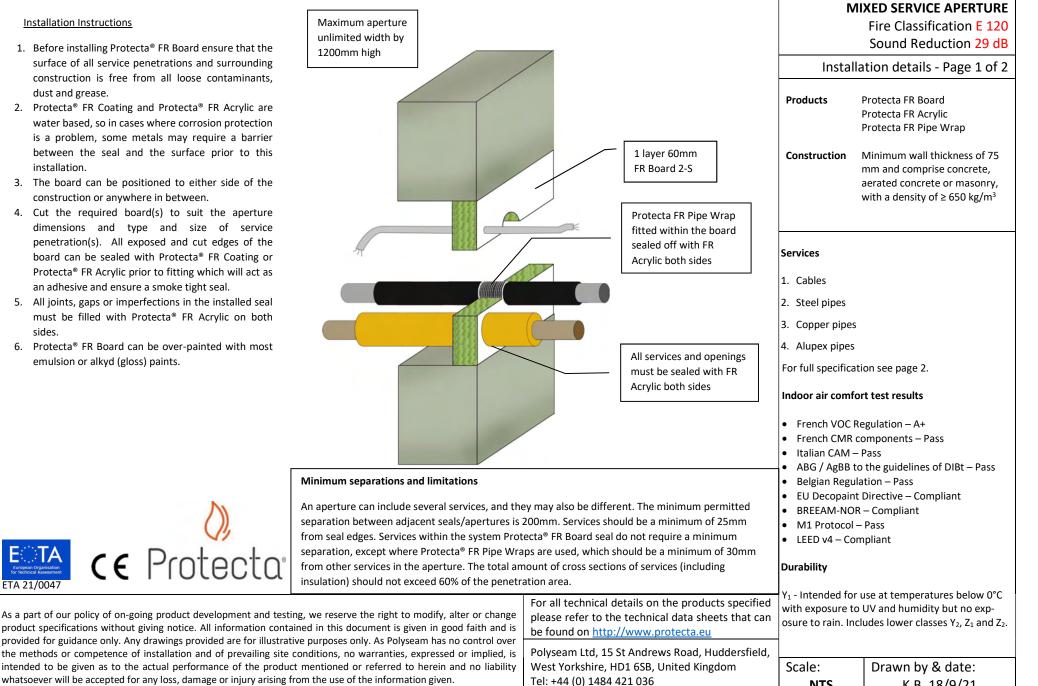


Fire Classification EI 60

Sound Reduction 29 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Collars or Coat Back
Cables	≤ Ø21mm per cable	-	-	-	None needed
Cables single or bundled, with or without perforated cable trays and ladders	≤ Ø80mm per cable	-	-	-	300µ WFT Service Coat FR-1
	≤Ø324mm per pipe	-	20 - 50mm thick continuous stone wool \ge 80kg/m ³	C/U	-
Steel sizes	≤ Ø40mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
Steel pipes	≤ Ø54mm per pipe	-	\geq 20mm thick x 100cm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø325mm per pipe	-	\geq 30mm thick x 100cm long stone wool \geq 80 kg/m ³ both sides	C/U	-
Copper pipes	≤ Ø54mm per pipe	-	\geq 20mm thick x 100cm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø75mm per pipe	-	25mm continuous glass or stone wool ≥ 75kg/m ³	C/C	-
	≤Ø16mm per pipe	-	9mm thick continuous elastomeric or PE foam	C/C	Protecta FR Collar 50mm high
Alupex pipes	≤Ø75mm per pipe	-	25mm thick continuous elastomeric or PE foam	C/C	Protecta FR Collar 60mm high
	≤Ø75mm per pipe	-	\geq 30mm thick x 60cm long stone wool \geq 80 kg/m ³ both sides	C/C	-
	≤Ø110mm per pipe	1.9 – 6.6mm	-	U/C	Protecta FR Collar 50mm high
PVC-U and PVC-C pipes	≤ Ø160mm per pipe	3.1 – 9.5mm	-	C/C	Protecta FR Collar 60mm high
	≤Ø110mm per pipe	3.0 – 10.0mm	-	C/C	Protecta FR Collar 50mm high
PE, ABS and SAN+PVC pipes	≤Ø160mm per pipe	3.9 – 9.5mm	-	C/C	Protecta FR Collar 60mm high
	≤ Ø90mm per pipe	1.8 – 4.6mm	-	C/C	Protecta FR Collar 50mm high
PP pipes	≤Ø160mm per pipe	2.7 – 9.1mm	-	C/C	Protecta FR Collar 60mm high

- 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 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.
- 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.



K.B. 18/9/21

NTS

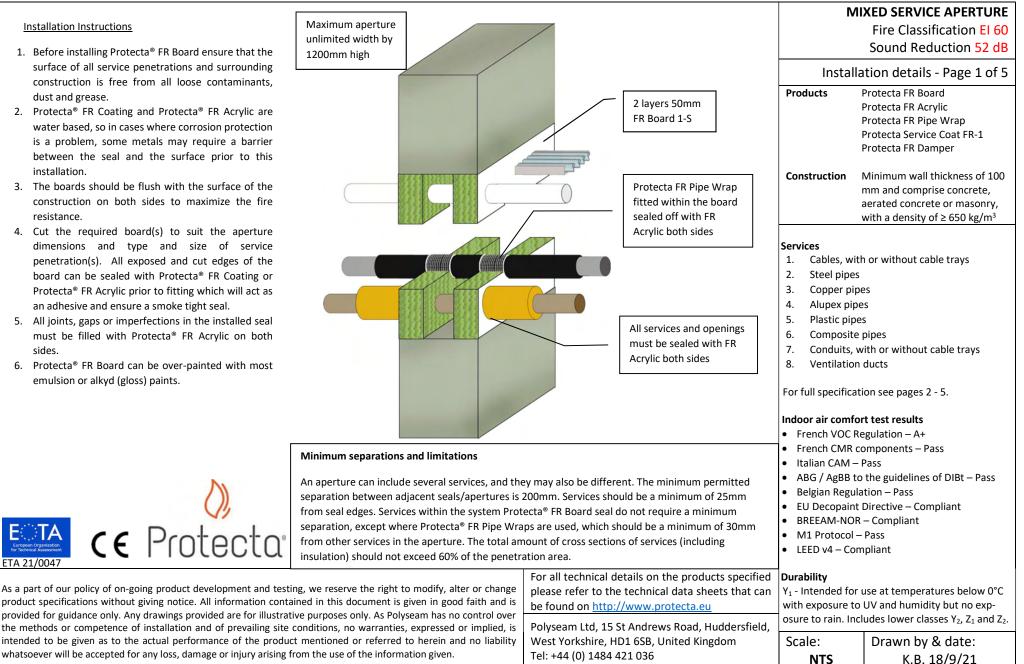
Fire Classification E 120

Sound Reduction 29 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Cables	≤ Ø21mm per cable	-	-	-	-
	≤ Ø165mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/U	1 layer of 50mm wide
	≤ Ø219mm per pipe	-	30-50mm thick continuous stone wool ≥ 80 kg/m ³	C/U	-
Steel pipes	≤ Ø325mm per pipe	-	50mm thick continuous stone wool ≥ 80kg/m ³	C/U	-
	≤ Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤ Ø325mm per pipe	-	\ge 30mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
Copper pipes	≤ Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
Alupex pipes	≤ Ø75mm per pipe	-	\ge 30mm thick x 60cm long stone wool \ge 80 kg/m ³ both sides	C/C	-

- 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.

ETA 21/0047



Fire Classification El 60

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Cables, single or bundled, with or w/o trays	≤ Ø80mm per cable	-	-	-	-
	≤Ø22mm per pipe	-	None	C/U	-
	≤Ø63mm per pipe	-	≥ 1150µ WFT x 200mm length Protecta Service Coat FR-1 both sides	C/C	-
	≤Ø63mm per pipe	-	≥ 2300µ WFT x 200mm length Protecta Service Coat FR-1 both sides	C/U	-
	≤Ø40mm per pipe	-	13mm thick continuous elastomeric or PE	U/U	1 layer of 50mm wide both sides
	≤Ø54mm per pipe	-	9mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
	≤Ø165mm per pipe	-	13 - 32mm thick continuous elastomeric or PE	U/U	2 layers of 50mm wide both sides
Charles in an	≤Ø324mm per pipe	-	32 - 50mm thick continuous elastomeric or PE	C/U	3 layers of 50mm wide both sides
Steel pipes	≤Ø16mm per pipe	-	15mm thick continuous phenolic	C/U	1 layer of 50mm wide both sides
	≤Ø273mm per pipe	-	25 - 100mm thick continuous phenolic	C/U	1 layer of 50mm wide both sides
	≤Ø15mm per pipe	-	20mm thick continuous glass wool \geq 75kg/m ³	C/C	-
	≤Ø54mm per pipe	-	40mm thick continuous glass wool \geq 75kg/m ³	C/C	-
	≤Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \geq 80kg/m ³	C/U	-
	≤Ø40mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø219mm per pipe	-	\geq 30mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø6mm per pipe	-	None	C/C	-
	≤Ø54mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Copper pipes	≤Ø15mm per pipe	-	20mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤Ø54mm per pipe	-	40mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤Ø54mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/C	-
	≤Ø20mm per pipe	-	None	C/C	-
	≤Ø75mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Alupex pipes	≤ Ø75mm per pipe	-	25 - 60mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
	≤Ø75mm per pipe	-	\geq 20mm thick x 500mm long stone wool \geq 80 kg/m ³ both sides	C/C	-

					MIXED SERVICE APERTURE Fire Classification EI 60 Sound Reduction 52 dB
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe	List of services - Page 3 of 5 Pipe Wraps
	≤ 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
	≤ 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
	≤ Ø125mm per pipe	3.7-7.4mm	-	U/C	3 layers of 50mm wide both sides
PVC-U & PVC-C pipes	≤ Ø160mm per pipe	4.0-9.5mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	4.9-11.9mm	-	C/C	6 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
	≤ 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
	≤ Ø68mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
	≤ 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
PE, ABS and SAN+PVC pipes	≤ Ø160mm per pipe	4.9-14.6mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø178mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or PE	C/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	6.2-18.2mm	-	C/C	6 layers of 50mm wide both sides
	≤ Ø260mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or PE	C/C	10 layers of 50mm wide both sides
	≤ Ø315mm per pipe	18.7mm	-	C/C	10 layers of 50mm wide both sides
	≤ Ø400mm per pipe	23.7mm	-	C/C	16 layers of 50mm wide both sides

Fire Classification El 60

Sound Reduction 52 dB

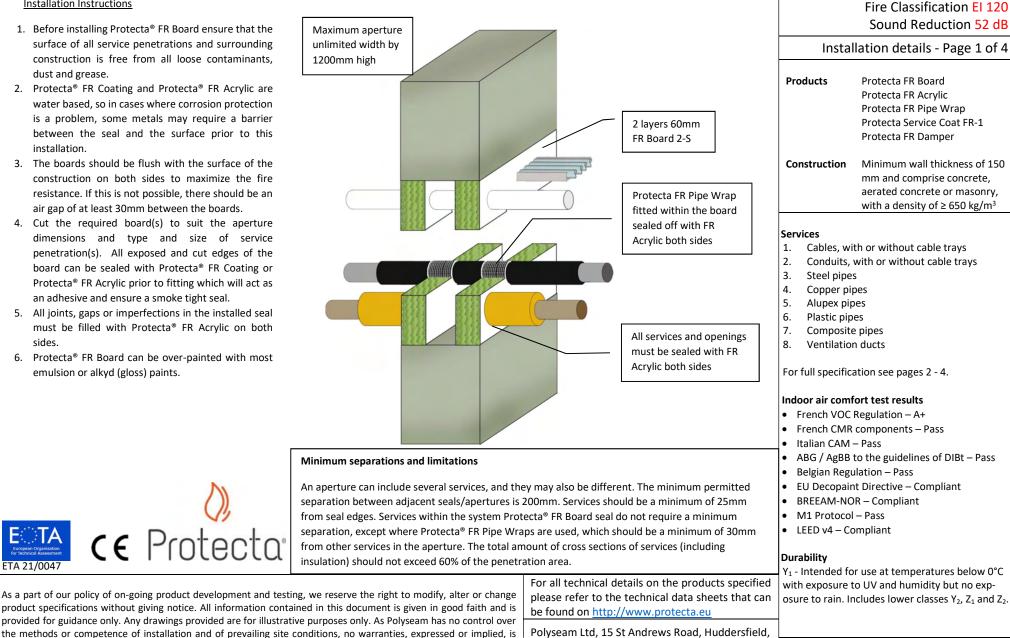
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø32mm per pipe	1.8-2.2mm	-	U/C	None
	≤ Ø40mm per pipe	1.8-5.5mm	-	U/U	1 layer of 50mm wide both sides
	≤ Ø68mm per pipe incl. insul.	1.8-14.6mm	9 - 50mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
	≤ Ø110mm per pipe	2.7-15.1mm	-	U/U	2 layers of 50mm wide both sides
DD pipes	≤ Ø125mm per pipe	3.1-17.1mm	-	U/C	3 layers of 50mm wide both sides
PP pipes	≤ Ø160mm per pipe	4.9-21.9mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø178mm per pipe incl. insul.	1.8-14.6mm	9 - 50mm thick continuous elastomeric or PE	C/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	4.9-18.2mm	-	C/C	6 layers of 50mm wide both sides
	≤ Ø260mm per pipe incl. insul.	1.8-14.6mm	9 - 50mm thick continuous elastomeric or PE	C/C	10 layers of 50mm wide both sides
	≤ Ø315mm per pipe	28.6mm	-	C/C	10 layers of 50mm wide both sides
	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
	≤ 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
	≤ Ø160mm per pipe	-	-	U/C	6 layers of 50mm wide both sides
Cabarit Clant DD sizes	≤ 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
	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Polo-Kal 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
	≤ 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

Fire Classification EI 60

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Linener Desibel nines	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide both sides
Uponor Decibel pipes	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Weyin Citash sizes	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide both sides
Wavin SiTech pipes	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide both sides
Steel or plastic conduits, with or w/o trays	≤Ø16mm per conduit	Any	-	C/U	-
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
	≤Ø32mm PVC-U & PVC-C	1.5-2.4mm			
Plastic pipe bundles ≤ Ø110mm with or without cables ≤ Ø14mm	≤ Ø40mm PE and ABS	2.0-3.7mm] -	U/C	2 layers of 50mm wide both sides
	≤Ø40mm PP	1.8-2.0mm			
	≤Ø400mm	-	≥ 30mm thick x 20cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper
Ventilation ducts	≤Ø1250mm	-	≥ 30mm thick x 50cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper
	≤ 1200mm high x 1700mm w	-	≥ 30mm thick x 50cm long stonewool mat ≥80kg/m ³ both sides	-	Protecta FR Damper

- 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. 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.
- 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.



West Yorkshire, HD1 6SB, United Kingdom

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intended to be given as to the actual performance of the product mentioned or referred to herein and no liability

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Drawn by & date:

K.B. 18/9/21

Scale:

NTS

MIXED SERVICE APERTURE

Fire Classification El 120

Sound Reduction 52 dB

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø21mm cables single or bundled	-	-	-	-
Cables and conduits with or without cable trays	≤ Ø16mm plastic conduits	-	-	C/U	-
	Cable trays or ladders	-	-	-	-
	≤ Ø63mm per pipe	-	≥ 1150µ WFT x 200mm length Service Coat FR-1 both sides	C/C	-
	≤ 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 \geq 80kg/m ³	C/U	-
	≤Ø40mm per pipe	-	\ge 20mm thick x 50cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤Ø219mm per pipe	-	\geq 30mm thick x 100cm long stone wool \geq 80 kg/m ³ 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	-	\ge 20mm thick x 50cm long stone wool \ge 80 kg/m ³ both sides	C/C	-
	≤ Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤Ø20mm per pipe	-	None	C/C	-
	≤Ø75mm per pipe	-	9 - 25mm thick continuous elastomeric or PE	C/C	2 layers of 50mm wide both sides
Alupex pipes	≤Ø16mm per pipe	-	\ge 20mm thick x 60cm long stone wool \ge 80 kg/m ³ both sides	U/C	-
	≤ Ø75mm per pipe	-	\geq 30mm thick x 60cm long stone wool \geq 80 kg/m ³ 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
	≤Ø125mm per pipe	4.7-7.4mm	-	U/C	4 layers of 50mm wide both sides
PVC-U & PVC-C pipes	≤Ø160mm per pipe	4.0-9.5mm	-	U/C	6 layers of 50mm wide both sides
	≤ Ø200mm per pipe	4.9-11.9mm	-	C/C	6 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

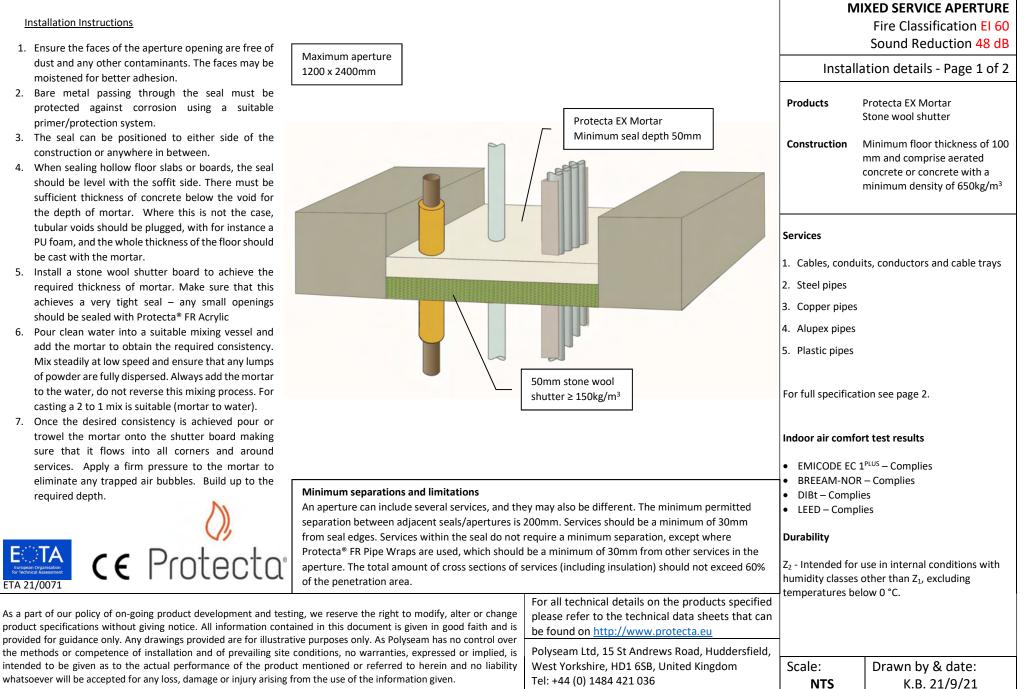
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
PE, ABS and SAN+PVC pipes	≤Ø40mm per pipe	2.4-3.7mm	-	U/U	1 layer of 50mm wide both sides
	≤Ø40mm per pipe	3.8-4.6mm	-	U/C	1 layer of 50mm wide both sides
	≤Ø110mm per pipe	3.4-10.0mm	-	U/C	2 layers of 50mm 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
	≤Ø160mm per pipe	9.6-14.6mm	-	C/C	6 layers of 50mm wide both sides
	≤Ø200mm per pipe	4.9-18.2mm	-	C/C	6 layers of 75mm wide both sides
	≤Ø315mm per pipe	28.6mm	-	C/C	10 layers of 75mm wide both sides
	≤Ø400mm per pipe	36.3mm	-	C/C	16 layers of 75mm wide both sides
PP pipes	≤Ø40mm per pipe	1.8-5.5mm	-	U/U	1 layer of 50mm wide both sides
	≤Ø110mm per pipe	2.7-10.0mm	-	C/C	2 layers of 50mm wide both sides
	≤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
	≤ Ø200mm per pipe	4.9-18.2mm	-	C/C	6 layers of 75mm wide both sides
Plastic pipe bundles ≤ Ø107mm	≤ Ø32mm PVC-U & PVC-C	1.0-2.4mm			
	$\leq \emptyset$ 32mm PE and ABS	2.0-4.4mm	-	U/C	2 layers of 50mm wide both sides
	≤Ø32mm PP	1.8-4.4mm			
PEX pipe-in-pipes	≤Ø54mm per pipe	-	-	C/C	2 layers of 50mm wide both sides
Geberit Silent-PP 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
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

	MIXED SERVICE APERTURE				
	Fire Classification EI 120 Sound Reduction 52 dB				
					List of services - Page 4 of 4
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide both sides
	≤ 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
Ventilation ducts	≤ Ø400mm	-	\ge 30mm thick x 20cm long stonewool mat \ge 80kg/m ³ both sides	-	Protecta FR Damper
	≤ 600mm high x 1000mm wide	-	\ge 30mm thick x 50cm long stonewool mat \ge 80kg/m ³ both sides	-	Protecta FR Damper

Installation Instructions

- 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 sealing hollow floor slabs or boards, the seal should be level with the soffit side. There must be sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case. tubular voids should be plugged, with for instance a PU foam, and the whole thickness of the floor should be cast with the mortar.
- 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 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. For casting a 2 to 1 mix is suitable (mortar to water).
- 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.





Fire Classification EI 60

Sound Reduction 48 dB

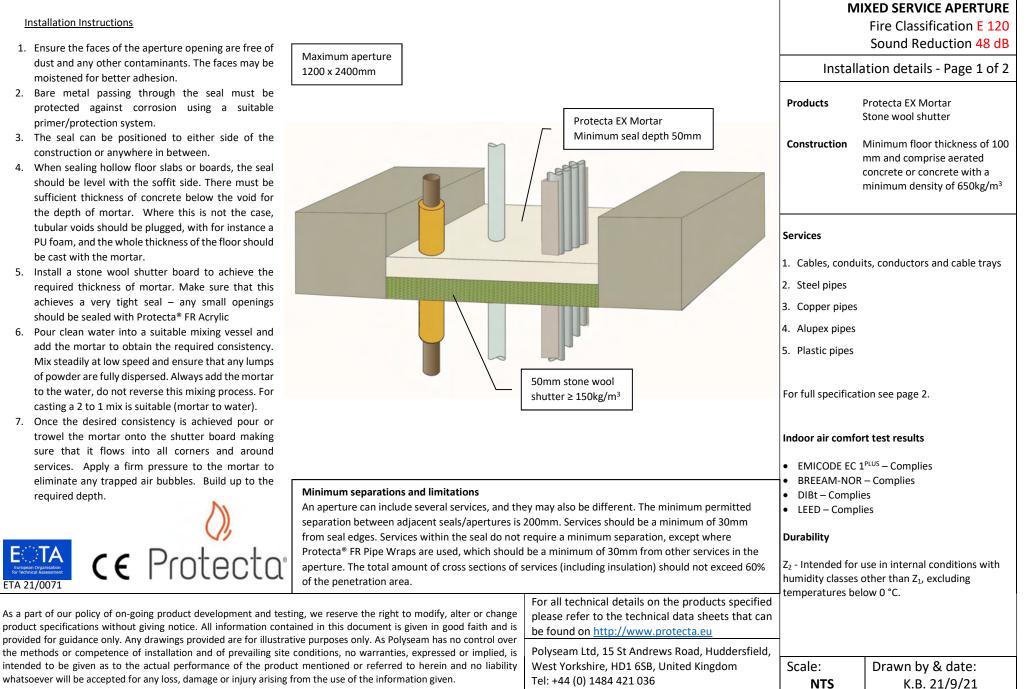
List of services - Page 2 of 2

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø21mm cables single or bundled	-	-	-	-
Cables, with or without trays or ladders	≤ Ø16mm plastic conduits	-	-	C/U	-
	≤ 95mm ² non-sheathed conductors	-	-	-	-
	≤Ø16mm per pipe	-	None	C/U	-
Steel piper	≤Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/U	-
Steel pipes	≤ Ø40mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤ Ø219mm per pipe	-	\ge 30mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	Ø6mm per pipe	-	None	C/C	-
Copper pipes	≤ Ø54mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/C	-
	≤ Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/C	-
	≤ Ø20mm per pipe	-	None	C/C	-
	≤Ø16mm per pipe	-	20mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
Alupex pipes	≤ Ø75mm per pipe	-	25 - 50mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
	≤Ø75mm per pipe	-	\ge 20mm thick x 50cm long stone wool \ge 80 kg/m ³ both sides	C/C	-
PVC-U and PVC-C pipes	≤ Ø40mm per pipe	1.6-3.4mm	-	U/C	None
PEX pipe-in-pipes	≤ Ø25mm per pipe	-	-	C/C	None

Installation Instructions

- 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 sealing hollow floor slabs or boards, the seal should be level with the soffit side. There must be sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case. tubular voids should be plugged, with for instance a PU foam, and the whole thickness of the floor should be cast with the mortar.
- 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 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. For casting a 2 to 1 mix is suitable (mortar to water).
- 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.





Fire Classification E 120

Sound Reduction 48 dB

List of services - Page 2 of 2

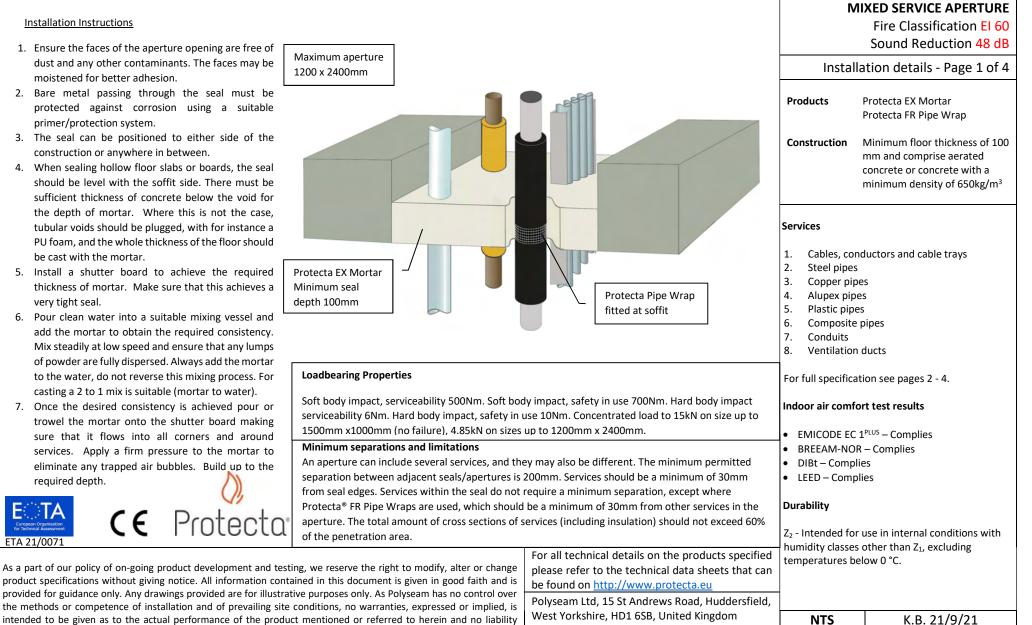
Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø21mm cables single or bundled	-	-	-	-
Cables, with or without trays	≤ Ø16mm plastic conduits	-	-	C/U	-
	≤ 95mm ² non-sheathed conductors	-	-	-	-
Steel zizzz	≤Ø324mm per pipe	-	None	C/U	-
Steel pipes	≤Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/U	-
Conner nines	≤ Ø54mm per pipe	-	None	C/C	-
Copper pipes	≤Ø54mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/C	-
	≤ Ø75mm per pipe	-	None	C/C	-
Alupex pipes	≤Ø16mm per pipe	-	20mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤ Ø75mm per pipe	-	25 - 50mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
PVC-U and PVC-C pipes	≤ Ø40mm per pipe	1.6-3.4mm	-	U/C	None
PEX pipe-in-pipes	≤ Ø25mm per pipe	-	-	C/C	None

Installation Instructions

- 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.
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- 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. For casting a 2 to 1 mix is suitable (mortar to water).
- 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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Fire Classification El 60

Sound Reduction 48 dB

List of services - Page 2 of 4

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø80mm cables single or bundled	-	-	-	-
Cables, with or without trays or ladders	≤ Ø16mm plastic conduits	-	-	C/U	-
	≤ 95mm ² non-sheathed conductors	-	-	-	-
	≤Ø16mm per pipe	-	None	C/U	-
	≤ Ø40mm per pipe	-	20 - 24mm thick continuous elastomeric or phenolic	C/U	2 layers of 50mm wide soffit side
	≤Ø165mm per pipe	-	13 - 19mm thick continuous elastomeric or phenolic	C/U	1 layer of 50mm wide soffit side
	≤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
Steel pipes	≤Ø76mm per pipe	-	9 mm thick continuous PE foam	C/U	1 layer of 50mm wide soffit side
	≤ Ø76mm per pipe	-	10 - 30mm thick continuous PE foam	C/U	2 layers of 50mm wide soffit side
	≤Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/U	-
	≤ Ø40mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤ Ø219mm per pipe	-	\geq 30mm thick x 100cm long stone wool \geq 80 kg/m ³ 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 \ge 80kg/m ³	C/C	-
	≤ Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/C	-
	≤ Ø20mm per pipe	-	None	C/C	-
	≤Ø75mm per pipe	-	9 - 25mm thick continuous elastomeric or phenolic	C/C	2 layers of 50mm wide soffit side
Alupex pipes	≤Ø16mm per pipe	-	20mm thick continuous glass- or stone wool \ge 75kg/m ³	C/C	-
	≤ Ø75mm per pipe	-	25 - 50mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
	≤ Ø75mm per pipe	-	\ge 20mm thick x 50cm long stone wool \ge 80 kg/m ³ both sides	C/C	-

Fire Classification EI 60

Sound Reduction 48 dB

List of services - Page 3 of 4

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤Ø40mm per pipe	1.6-3.4mm	-	U/C	None
	≤Ø40mm per pipe	1.8-3.7mm	-	U/U	1 layer of 50mm wide soffit side
	≤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
	≤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 size in sizes	≤Ø25mm per pipe	-	-	C/C	None
PEX pipe-in-pipes	≤Ø54mm per pipe	-	-	C/C	2 layers of 50mm wide soffit side
	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
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide soffit side
	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide soffit side
BluePower 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 EI 60

Sound Reduction 48 dB

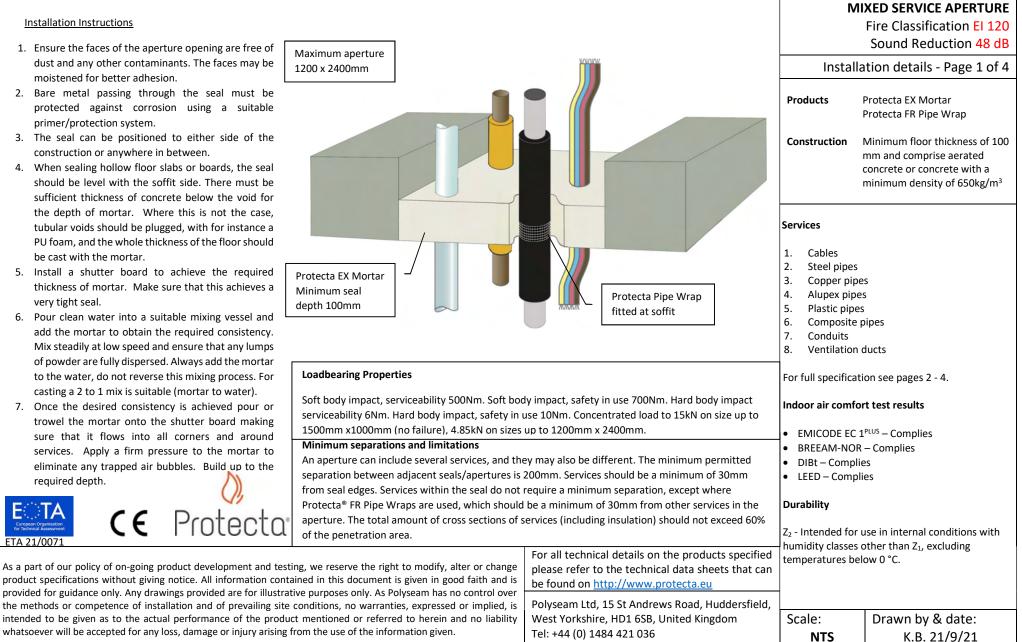
List of services - Page 4 of 4

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ 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
	≤ 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
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide soffit side
Uponor Decibel pipes	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide soffit side
	≤ 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/m ³ top side	-	Protecta FR Damper
Ventilation ducts	≤Ø1000mm	-	≥ 30mm thick x 50cm long stonewool mat ≥80kg/m ³ top side	-	Protecta FR Damper
	≤ 1000 x 1000mm	-	≥ 30mm thick x 50cm long stonewool mat ≥80kg/m ³ top side	-	Protecta FR Damper

Installation Instructions

- 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 sealing hollow floor slabs or boards, the seal should be level with the soffit side. There must be sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be plugged, with for instance a PU foam, and the whole thickness of the floor should be cast with the mortar.
- 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. For casting a 2 to 1 mix is suitable (mortar to water).
- 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.

CE Protecta



Fire Classification El 120

Sound Reduction 48 dB

List of services - Page 2 of 4

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Cables in tied bundles	$\leq \emptyset$ 21mm cables in bundles $\leq \emptyset$ 100mm	-	-	-	-
Conduite w/achlas < @14mm	≤ Ø16mm plastic conduits	-	-	C/U	-
Conduits w/cables ≤ Ø14mm	≤ Ø110mm PVC conduits	2.7-6.6mm	-	U/C	2 layers of 50mm wide soffit side
	≤Ø16mm per pipe	-	None	C/U	-
	≤Ø40mm per pipe	-	20 - 24mm thick continuous elastomeric or phenolic	C/U	2 layers of 50mm wide soffit side
	≤Ø165mm per pipe	-	13 - 19mm thick continuous elastomeric or phenolic	C/U	1 layer of 50mm wide soffit side
Steel sizes	≤Ø324mm per pipe	-	25mm thick continuous elastomeric or phenolic	C/U	2 layers of 50mm wide soffit side
Steel pipes	≤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 \ge 80kg/m ³	C/U	-
	≤Ø40mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤Ø219mm per pipe	-	\geq 30mm thick x 100cm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø6mm per pipe	-	None	C/C	-
Commentation of the second s	≤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 \geq 80kg/m ³	C/C	-
	≤Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ 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
Alupex pipes	≤Ø16mm per pipe	-	20mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤Ø75mm per pipe	-	25 - 50mm thick continuous glass- or stone wool ≥ 75 kg/m ³	C/C	-
	≤Ø75mm per pipe	-	\ge 20mm thick x 50cm long stone wool \ge 80 kg/m ³ both sides	C/C	-

Fire Classification El 120

Sound Reduction 48 dB

List of services - Page 3 of 4

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø40mm per pipe	1.6-3.4mm	-	U/C	None
	≤ 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
	≤ 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
	≤ Ø25mm per pipe	-	-	C/C	None
PEX pipe-in-pipes	≤ Ø54mm per pipe	-	-	C/C	2 layers of 50mm wide soffit side
	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
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide soffit side
	≤ Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide soffit side
BluePower 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

List of services - Page 4 of 4

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
Cohorit Silont DD nings	≤ 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
Debeu Deuriere Dha sines	≤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
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide soffit side
Uponor Decibel pipes	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide soffit side
Weyin SiTech nines	≤ 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
Ventilation ducts	≤Ø400mm	-	≥ 30mm thick x 15cm long stonewool mat ≥80kg/m ³ top side	-	Protecta FR Damper

Installation Instructions

- 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 sealing hollow floor slabs or boards, the seal should be level with the soffit side. There must be sufficient thickness of concrete below the void for the depth of mortar. Where this is not the case, tubular voids should be plugged, with for instance a PU foam, and the whole thickness of the floor should be cast with the mortar.
- 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. For casting a 2 to 1 mix is suitable (mortar to water).
- 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.

whatsoever will be accepted for any loss, damage or injury arising from the use of the information given.

CE Protecta

Installation instructions				Fire Classification El 120
1. Ensure the faces of the aperture opening are free of				Sound Reduction 48 dB
dust and any other contaminants. The faces may be	Maximum aperture 1200 x 2400mm		Installa	tion details - Page 1 of 5
 Bare metal passing through the seal must be protected against corrosion using a suitable primer/protection system. 				Protecta EX Mortar Protecta FR Pipe Wrap
 The seal can be positioned to either side of the construction or anywhere in between. When sealing hollow floor slabs or boards, the seal 			r C	Minimum floor thickness of 150 mm and comprise aerated concrete or concrete with a
should be level with the soffit side. There must be sufficient thickness of concrete below the void for			i r	minimum density of 650kg/m ³
the depth of mortar. Where this is not the case, tubular voids should be plugged, with for instance a PU foam, and the whole thickness of the floor should			Services	or without cable trays
be cast with the mortar. 5. Install a shutter board to achieve the required			2. Steel pipes	or without cable trays
thickness of mortar. Make sure that this achieves a	Protecta EX Mortar Minimum seal	Protecta Pipe Wrap	 Copper pipes Alupex pipes 	
very tight seal.	depth 150mm	fitted at soffit	5. Plastic pipes	
6. Pour clean water into a suitable mixing vessel and			6. Composite p	pipes
add the mortar to obtain the required consistency.			7. Conduits	
Mix steadily at low speed and ensure that any lumps			8. Ventilation c	ducts
of powder are fully dispersed. Always add the mortar to the water, do not reverse this mixing process. For	Loadbearing Properties		For full specification	on see pages 2 - 5.
casting a 2 to 1 mix is suitable (mortar to water).				
7. Once the desired consistency is achieved pour or		ly impact, safety in use 700Nm. Hard body impact use 10Nm. Concentrated load to 15kN on size up to	Indoor air comfor	t test results
trowel the mortar onto the shutter board making sure that it flows into all corners and around	1500mm x1000mm (no failure), 4.85kN on sizes	up to 1200mm x 2400mm.	EMICODE EC 1	^{PLUS} – Complies
services. Apply a firm pressure to the mortar to	Minimum separations and limitations		BREEAM-NOR	•
eliminate any trapped air bubbles. Build up to the	An aperture can include several services, and the	ey may also be different. The minimum permitted	• DIBt – Complie	25
required depth.	separation between adjacent seals/apertures is 2	200mm. Services should be a minimum of 30mm	LEED – Complie	es
	from seal edges. Services within the seal do not			
FOTA CC D			Durability	
CE Protecta		services (including insulation) should not exceed 60%	7 Intended for	as in internal conditions with
ETA 21/0071	of the penetration area.		=	ise in internal conditions with other than Z ₁ , excluding
		For all technical details on the products specified	temperatures belo	
As a part of our policy of on-going product development and testin	.	please refer to the technical data sheets that can		
product specifications without giving notice. All information contai provided for guidance only. Any drawings provided are for illustrativ	5 5	be found on http://www.protecta.eu	4	
the methods or competence of installation and of prevailing site c		Polyseam Ltd, 15 St Andrews Road, Huddersfield,		
intended to be given as to the actual performance of the product		West Yorkshire, HD1 6SB, United Kingdom	NTS	K.B. 21/9/21

Tel: +44 (0) 1484 421 036

MIXED SERVICE APERTURE

Fire Classification El 120

Sound Reduction 48 dB

List of services - Page 2 of 5

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø21mm cables single or bundled	-	-	-	-
	≤ Ø16mm plastic conduits	-	-	C/U	-
Cables, with or without trays or ladders	≤ 185mm ² non-sheathed conductors	-	-	-	-
	≤ 500mm wide trays or ladders	-	-	-	-
	≤Ø16mm per pipe	-	None	C/U	-
	≤Ø40mm per pipe	-	20 - 24mm thick continuous elastomeric or phenolic	C/U	2 layers of 50mm wide soffit side
	≤Ø165mm per pipe	-	13 - 19mm thick continuous elastomeric or phenolic	C/U	1 layer of 50mm wide soffit side
	≤Ø324mm per pipe	-	25mm thick continuous elastomeric or phenolic	C/U	2 layers of 50mm wide soffit side
Steel pipes	≤Ø324mm per pipe	-	26 - 50mm thick continuous elastomeric or phenolic	C/U	3 layers of 50mm wide soffit side
	≤Ø12mm per pipe	-	9mm thick continuous PE foam	C/U	1 layer of 50mm wide soffit side
	≤Ø324mm per pipe	-	20 - 80mm thick continuous stone wool \ge 80kg/m ³	C/U	-
	≤Ø40mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ both sides	C/U	-
	≤ Ø219mm per pipe	-	\geq 30mm thick x 100cm long stone wool \geq 80 kg/m ³ both sides	C/U	-
	≤Ø12mm per pipe	-	None	C/C	-
Conner nines	≤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 \ge 80kg/m ³	C/C	-
	≤Ø54mm per pipe	-	\ge 20mm thick x 100cm long stone wool \ge 80 kg/m ³ 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
Alupex pipes	≤Ø16mm per pipe	-	20mm thick continuous glass- or stone wool \geq 75kg/m ³	C/C	-
	≤Ø75mm per pipe	-	25 - 50mm thick continuous glass- or stone wool \ge 75kg/m ³	C/C	-
	≤Ø75mm per pipe	-	\ge 20mm thick x 50cm long stone wool \ge 80 kg/m ³ both sides	C/C	-

Fire Classification El 120

Sound Reduction 48 dB

List of services - Page 3 of 5

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ Ø40mm per pipe	1.6-3.4mm	-	U/C	None
	≤Ø40mm per pipe	1.8-3.7mm	-	U/U	1 layer of 50mm wide soffit side
	≤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
PVC-U and PVC-C pipes	Ø125mm per pipe	7.4mm	-	U/U	4 layers of 50mm wide soffit side
	≤Ø160mm per pipe	4.5-9.5mm	-	U/C	6 layers of 50mm wide soffit side
	≤Ø200mm per pipe	4.9-11.9mm	-	C/C	6 layers of 75mm wide soffit side
	Ø 315mm per pipe	7.7mm		C/C	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
	≤ Ø68mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or phenolic	C/C	2 layers 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
	≤ Ø125mm per pipe	3.9-11.4mm	-	U/C	4 layers of 50mm wide soffit side
PE, ABS and SAN+PVC pipes	Ø 125mm per pipe	11.4mm	-	U/U	4 layers of 50mm wide soffit side
PE, ABS and SAN+PVC pipes	Ø 140mm per pipe	8.0-12.4mm	-	U/U	6 layers of 75mm wide soffit side
	≤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
	≤ Ø178mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or phenolic	C/C	6 layers of 75mm wide soffit side
	≤Ø200mm per pipe	6.2-18.2mm	-	C/C	6 layers of 75mm wide soffit side
	≤Ø250mm per pipe	7.8mm	-	C/C	7 layers of 75mm wide soffit side
	≤ Ø260mm per pipe incl. insul.	3.0-9.5mm	9 - 50mm thick continuous elastomeric or phenolic	C/C	10 layers of 75mm wide soffit side

Fire Classification El 120

Sound Reduction 48 dB

List of services - Page 4 of 5

Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe config	Pipe Wraps
	≤ 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
	≤ Ø68mm per pipe incl. insul.	1.8-9.1mm	9 - 50mm thick continuous elastomeric or phenolic	C/C	2 layers 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
	Ø125mm per pipe	11.4mm	-	U/U	4 layers of 50mm wide soffit side
PP pipes	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
	≤ Ø178mm per pipe incl. insul.	1.8-9.1mm	9 - 50mm thick continuous elastomeric or phenolic	C/C	6 layers of 75mm wide soffit side
	≤ Ø200mm per pipe	4.9-18.2mm		C/C	6 layers of 75mm wide soffit side
	≤ Ø260mm per pipe incl. insul.	1.8-9.1mm	9 - 50mm thick continuous elastomeric or phenolic	C/C	10 layers of 75mm wide soffit side
	≤Ø315mm per pipe	4.9-7.7mm		C/C	10 layers of 75mm wide soffit side
DEV ning in nings	≤ Ø25mm per pipe	-	-	C/C	None
PEX pipe-in-pipes	≤ Ø54mm per pipe	-	-	C/C	2 layers of 50mm wide soffit side
Amostherma Courses CDD0 sizes	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
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide soffit side
	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide soffit side
BluePower 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
Cabarit Silant DD nings	≤ 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 120

Sound Reduction 48 dB

List of services - Page 5 of 5

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Type of Services	Size of Services	Pipe wall thicknesses	Pipe Insulation	Pipe 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
Debau Deurine Dhu sines	≤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
	≤ Ø50mm per pipe	-	-	U/U	2 layers of 50mm wide soffit side
Uponor Decibel pipes	≤Ø110mm per pipe	-	-	U/C	2 layers of 50mm wide soffit side
	≤ 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/m ³ top side	-	Protecta FR Damper

Appendix I – Services with gaps ≤ 10mm in floors

Single and bundled cables EI 60 & 120, top side seal	19
Single and bundled cables EI 45 & 60, soffit side seal	
Bundled cables EI 240, double sided seal	21
Large cable bundles EI 180	22
Steel pipes without insulation to EI 15 & 120, top side seal	23
Steel pipes without insulation to E 120, soffit side seal	24
Steel pipes with continuous SW insulation to El 240	25
Steel pipes with continuous GW insulation to EI 90	26
Steel pipes with interrupted SW insulation to EI 60 & 240	27
Steel pipes with interrupted GW insulation to EI 120 & 240	28
Steel pipes with continuous elastomeric insulation to El 120.	29
Copper pipes without insulation to El 90, top side seal	30
Copper pipes without insulation to E 120, soffit side seal	31
Copper pipes without insulation to El 180, double sided seal	32
Copper pipes with continuous SW insulation to EI 240	33
Copper pipes with continuous GW insulation to El 90	34
Copper pipes with interrupted insulation to EI 120 & 240	35
Copper pipes with continuous elastomeric insulation EI 60	36
Alupex pipes without insulation to EI 30 & 240	<u> 37 </u>
Alupex pipes with continuous SW insulation to El 240	<u>38</u>
Alupex pipes with continuous GW insulation to EI 120	39
Alupex pipes with interrupted insulation to EI 240	40
Alupex pipes with continuous elastomeric insulation EI 90	41
PEX pipe-in-pipes, single or bundles to EI 90	42
Plastic pipes with soffit side seals	
Plastic pipes with top side seals	44

Plastic pipes with continuous elastomeric insulation	45
Composite plastic pipes	46
Plastic pipes in bundles with or without cables to EI 90	47

Appendix I – Services with gaps \leq 10mm in rigid walls

Single cables and medium bundles to EI 60 & 120	
Large cable bundles to EI 60 & E 120	49
Steel pipes without insulation to EI 20 & 120	50
Steel pipes with continuous SW insulation to EI 120	51
Steel pipes with interrupted insulation to El 120	<u>52</u>
Steel pipes with continuous elastomeric insulation	53
Steel pipes with continuous phenolic insulation	54
Steel pipes with continuous PE foam insulation	55
Copper pipes without insulation to EI 60 & E 120	56
Copper pipes with continuous SW insulation to EI 60 & 120	57
Copper pipes with interrupted insulation to EI 60	58
Copper pipes with continuous elastomeric insulation	_59
Copper pipes with continuous phenolic insulation	60
Copper pipes with continuous PE foam insulation	61
Alupex pipes without insulation to EI 90 & 120	62
Alupex pipes with continuous SW insulation to EI 90 & 240	
Alupex pipes with interrupted insulation to EI 90	64
Alupex pipes with continuous elastomeric insulation	65
PEX pipe-in-pipes to EI 90 & E 120	_66
Plastic pipes to EI 90 & 180, single sided applications	67
Plastic pipes to El 60 & 90	68
Plastic pipes to El 60 & 240	69

Plastic pipes with continuous elastomeric insulation	70
Composite plastic pipes	71
Plastic pipes in bundles with or without cables to EI 90	72

Appendix I – Services with gaps ≤ 10mm in drywalls

Single cables and medium bundles to EI 60 & 120	73
Large cable bundles to EI 60 & E 120	74
Steel pipes, small, without insulation to El 45 & 120	
Steel pipes, large, without insulation to EI 20 & E 90	76
Steel pipes with continuous SW insulation to EI 60 & 120	77
Steel pipes with interrupted insulation to El 120	78
Steel pipes with continuous elastomeric insulation	79
Steel pipes with continuous phenolic insulation	
Steel pipes with continuous PE foam insulation	81
Copper pipes, small, without insulation to El 60 & E 120	82
Copper pipes, large, without insulation to EI 15 & E 90	
Copper pipes with continuous SW insulation to EI 60	
Copper pipes with interrupted insulation to EI 60	
Copper pipes with continuous elastomeric insulation	86
Copper pipes with continuous phenolic insulation	87
Copper pipes with continuous PE foam insulation	88
Alupex pipes, small, without insulation to EI 90 & 120	
Alupex pipes, large, without insulation to El 90	90
Alupex pipes with continuous SW insulation	91
Alupex pipes with interrupted insulation	92
Alupex pipes with continuous elastomeric insulation	93
PEX pipe-in-pipes to EI 90 & E 120	94

70	Plastic pipes in 75mm thick walls	95
71	Plastic pipes to EI 60 & 90	96
72	Plastic pipes to EI 90 & 120	97
	Plastic pipes with continuous elastomeric insulation	98
73	Composite plastic pipes	99
73 74	Plastic pipes in bundles with or without cables to EI 90	100
75	Appendix II – Services with gaps 10-30mm in floors	
76	Cables in single sided seal to EI 60 & E 120	102
77	Cables in single sided seal to EI 90 & 240	103
78	Cables in a bundle to El 60 & 120	104
79	Cables in large bundles to EI 180	105
80	Steel pipes without insulation in single sided seal	106
81	Steel pipes without insulation in double sided seal	
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