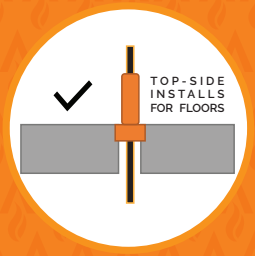
TRAFALGAR FIRE

FyrePEX HP

SEALANT GUIDE FOR HVAC&R

FyrePEX™ HP

FyrePEX™ High-Performance Sealant is a graphite water-based intumescent mastic sealant that is used for fire stopping of service penetrations through fire-rated walls and floors to prevent the spread of fire for up to 2 hours.



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INSTALL VIDEO

KEY FEATURES

- Also suitable for electrical and plumbing services
- Quick and easy to apply and install
- Tested for all common wall and floor types
- Non-toxic & Green star rated for low VOC
- Water based for easy clean up
- Fire tested and approved in accordance with AS1530.4-2014 and AS4072.1

APPLICATIONS

HVAC&R

- Pair coil (single or in clusters of 3)
- Hard drawn lagged copper pipe

This manual specifically covers HVAC&R service penetrations. For details on electrician or plumbing service penetrations with FyrePEX HP® sealant, visit: https://tfire.com.au/product/fyrepex-hp-fire-rated-sealant/

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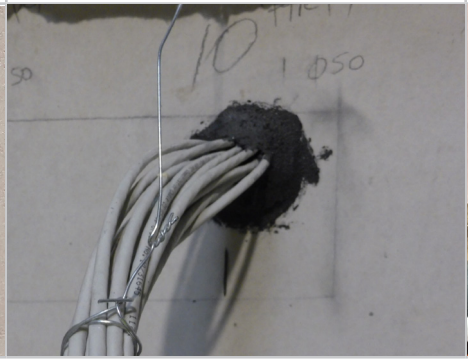
WHAT IS FYREPEX HP?

FyrePEX High-Performance (HP) Sealant is a graphite & water-based intumescent mastic/sealant that is used for fire protection of service penetrations through fire-rated walls and floors to prevent the spread of fire for up to 2 hours. This type of sealant is designed to expand with a high pressure to fill any gaps that form when plastic pipes and cables melt away and maitain the FRL of the wall or floor that they pass through.

Whilst it was first developed for plumbing services (hence the FyrePEX name!) this sealant has proven extremely useful when tested with a wide range of building services. This manual lists the plumbing services that can be sealed with FyrePEX HP, however you can click the icons below to find trade specific installation manuals:

Plumbing	Elecrical and data CLICK TO LEARN MORE	HVAC&R (See below manua CLICK TO LEARN MORE
PEX pipes PEX-AL-PEX pipes	Fire cable and data cable bundles Power cables (Al and Copper core) PVC conduits	Pair coil bundles Small CHW pipes
		

Key Features:

- Specifically designed for water and gas PEX pipe penetration seals
- Also suitable for electrcal, data and HVAC&R services
- Quick and easy to apply and install
- Tested for SpeedPanel, Hebel, Walsc, Maxilite and plasterboard walls
- Non-toxic fire-rated mastic
- Green star rated for low VOC
- Water based fire mastic for easy clean up
- Tested and approved in accordance with AS1530.4-2014 and AS4072.1
- FyrePEX HP Fire-rated mastic compliance made easy with FyreSHEATH
- Head of wall penetrations now approved when using the FyreSTRAP systems

Please check the product approvals listed below and in the FyrePEX HP fire assessment report FAR 4849 before use on your project. For test reports, installation videos and more please visit www.tfire.com.au.

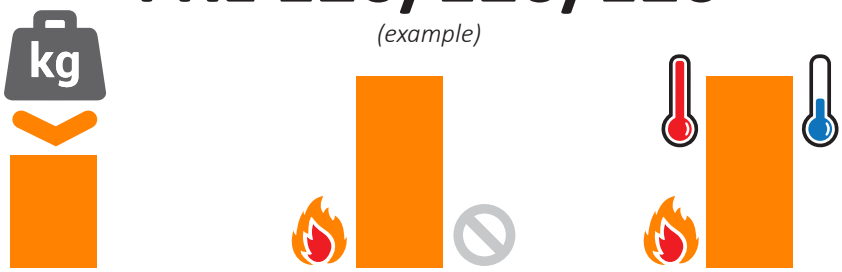
FyrePEX™ HP

FIRE RATING – HOW IS FIRE PERFORMANCE MEASURED?

An FRL (fire resistance level) is a handy way of summarising the performance of a building element. It consists of 3 numbers, all given in minutes:

FRL 120/120/120

(example)



Structural Adequacy

The ability of the building element to support the weight of adjacent building elements.

ie: a brick wall supporting a concrete floor slab above.

Integrity

The ability of an element to prevent the passage of flames and hot gasses.

ie: a plasterboard wall remaining intact and not allowing holes to form.

Insulation

The ability of an element to resist heat transfer from the exposed face to the unexposed face.

ie: a bundle of cables remaining below a set temperature limit on the unexposed side of the wall penetration system.

Note: Penetrations are not required to have a Structural Adequacy rating and is usually expressed as a dash. For example, a penetration through a 2 hour load bearing wall would be written as -/120/120.

INTEGRITY

The FyrePEX™ HP Sealant system will achieve the integrity performance for up to 2 hours physically stopping the direct spread of fire, however the insulation performance of the penetration will be limited to the type of wall being used and conductivity of the services in the penetration.

INSULATION (TEMPERATURE RISE)

Heat transfer via conduction (or heat rise) will occur through the conductive parts of any penetration system. To limit the heat rise through some of the FyrePEX™ HP Sealant penetration systems, our 25mm thick TWRAP™ foil encased blanket can be wrapped around the services to achieve up to 2 hours of insulation performance. There are some applications that won't require any TWRAP™ to achieve the full FRL, please refer to the tables below for specific details.

PRE-INSTALL NOTES

ANNULAR GAP

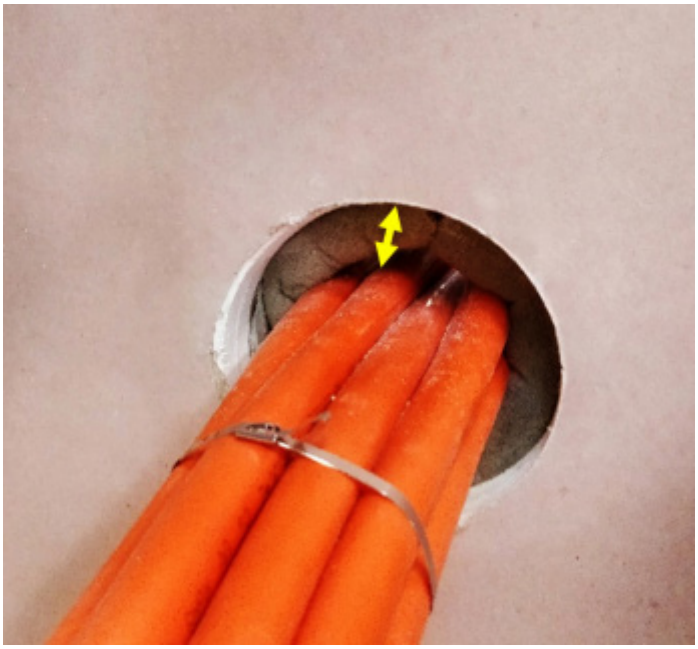
The annular gap is the space between a service and the hole. Annular gaps are important as they allow for movement in the building and service.

FyrePEX® sealant is used in the annular gap to form a seal to stop the spread of fire formed by plastic pipes, lagged pipes and cables when they melt away. The approved annular gap for this sealant is 10-20mm, depending on application.

If an opening has already been formed and it is larger than what is prescribed here in this manual, Trafalgar Fire has several systems that can be used to close down the opening to the correct size:

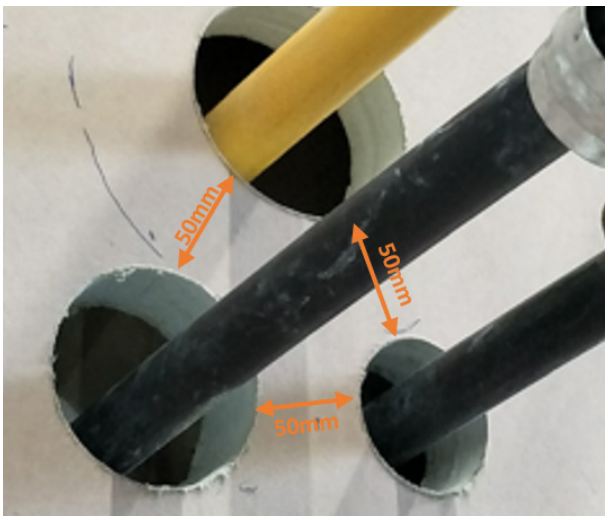
- FyreBATT
- FyreBOARD Maxilite®
- FyreBOX range

Refer to your preferred system technical manual for details on installation and approved barriers and services or, contact **Trafalgar Fire at** technical@tgroup.com.au for technical assistance.



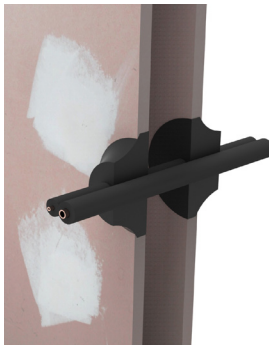
SERVICE SEPARATION

The distance between any two services can be a tricky topic of conversation. There are trade specific requirements (i.e. proximity of electrical services to gas services), but often asked is what are the requirements for compliance with fire stopping systems? FyrePEX® HP Sealant is approved to have penetrations as close as 50mm away from one another (i.e. 50mm between openings, edge-to-edge).



PLASTERBOARD 60MIN

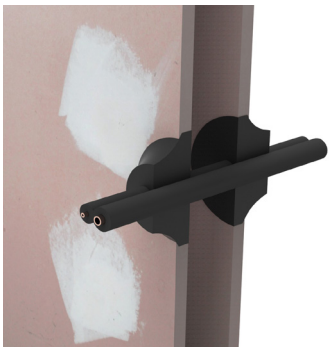
Single-Layer plasterboard walls min 13mm FR plasterboard each side **64mm Stud systems**



Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1x Air Conditioning pair coil* FR or PE insulated	Wall Fill (each side of wall with 30x30mm fillet)	110mm	Depth of plaster (13mm)	-/60/60	FAR 4849
1x Air Conditioning pair coil* FR or PE insulated	Locally Thickened Wall Fill (one side of wall thickened)	110mm	Depth of plaster and patch, finished with 30mm fillet**	-/60/60	FAS220102
Up to 3x Air Conditioning bundles* side by side	Locally Thickened Wall Fill (each side of wall)	110mm, each 50mm apart	Depth of plaster (26mm)	-/60/60	FAR 4849
Insulated copper or Steel up to 32mm pipe with 25mm FR insulation	Locally Thickened Wall Fill (each side of wall with 30x30mm fillet)	110mm	Depth of plaster (26mm) Sealant finished with 30mm fillet	-/60/60	

PLASTERBOARD 90MIN

Single-Layer plasterboard walls min 16mm FR plasterboard each side **64mm Stud systems**



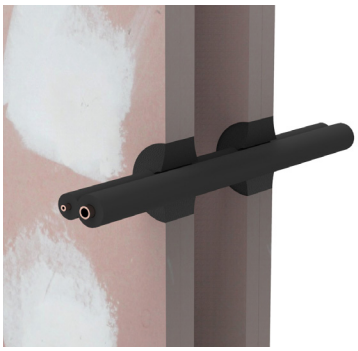
Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1x Air Conditioning pair coil* FR or PE insulated	Locally Thickened Wall Fill (each side of wall)	110mm	Depth of plaster (26mm)	-/90/90	FAR 4849
Up to 3x Air Conditioning bundles* side by side	Locally Thickened Wall Fill (each side of wall)	110mm, each 50mm apart	Depth of plaster (26mm)	-/90/90	
Insulated copper or Steel up to 32mm pipe with 25mm FR insulation	Locally Thickened Wall Fill (each side of wall with 30x30mm fillet)	110mm	Depth of plaster (26mm) Sealant finished with 50mm fillet	-/90/60	
	Locally Thickened Wall Fill with TWRAP™ (Sealant and TWRAP™)		Depth of plaster (26mm) Sealant finished with 30mm fillet	-/90/90	

* Each A/C pair coil to consist of two insulated copper pipes (pair coil) with insulation up to 20mm thick with or without: power cables up to 12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.

** Half wall system- Service entering and exiting the same side of the wall. Wall stud required to be min. 92mm. Refer to drawing Page 19.

PLASTERBOARD 120MIN

Double-Layer plasterboard walls
min 13mm FR plasterboard each side
64mm Stud systems



Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1x Air Conditioning pair coil* FR insulated	Wall Fill (each side of wall)	110mm	Depth of plaster (26mm)	-/120/120	FAR 4849
1x Air Conditioning pair coil* PE insulated	Wall Fill (each side of wall)	110mm	Depth of plaster (26mm)	-/120/90	
	Wall Fill with TWRAP (Sealant and 300mm TWRAP each side)	110mm	Depth of plaster (26mm)	-/120/120	
Up to 3x Air Conditioning bundles* side by side	Locally Thickened Wall Fill (each side of wall)	110mm spaced at minimum 50mm apart	Depth of plaster (26mm)	-/120/90	
	Wall Fill with TWRAP (Sealant from each side with TWRAP wrapped around all services as one)			-/120/120	
Insulated copper or Steel up to 32mm pipe with 25mm FR insulation	Wall Fill (each side of wall)	110mm	Depth of plaster (26mm) Sealant finished with 10mm fillet	-/120/60	
			Depth of plaster (26mm) Sealant finished with 50mm fillet	-/120/120	

* A/C bundle to consist of two insulated copper pipes (pair coil) with insulation up to 20mm thick with or without: power cables up to12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.

*** 5mm oversize hole for each service FyreSTRAP secured to underside of concrete soffit/concrete slab. FyreSTRAP 40mm high upto 160mm wide filled with 50mm deep FyrePEX HP sealant on each face of the wall.

CONCRETE/MASONRY

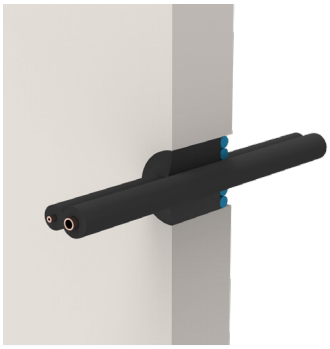
Minimum 116mm thick
Constructed as per AS3600 and AS3700

Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1x Air Conditioning pair coil* FR insulated	Wall Fill (each side of wall)	110mm	26mm Both sides of wall	-/120/120	FAR 4849
1x Air Conditioning pair coil* PE insulated	Wall Fill (each side of wall)	110mm	26mm Both sides of wall Sealant finished with 50mm fillet	-/120/90	
	Wall Fill with TWRAP (Sealant and TWRAP each side)		26mm Both sides of wall	-/120/120	
Up to 3x Air Conditioning bundles* side by side	Locally Thickened Wall Fill (each side of wall)	110mm spaced at minimum 50mm apart	26mm Both sides of wall	-/120/90	
	Wall Fill with TWRAP (Sealant from each side with TWRAP wrapped around all services as one)			-/120/120	
Insulated copper or Steel up to 32mm pipe with 25mm FR insulation	Wall Fill (each side of wall)	110mm	Depth of plaster (26mm) Sealant finished with 10mm fillet	-/120/60	
			Depth of plaster (26mm) Sealant finished with 50mm fillet	-/120/120	

* A/C bundle to consist of two insulated copper pipes (pair coil) with insulation up to 20mm thick with or without: power cables up to12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.

Hebel®

AAC Powerpanel Wall Systems
Minimum 75mm Thickness



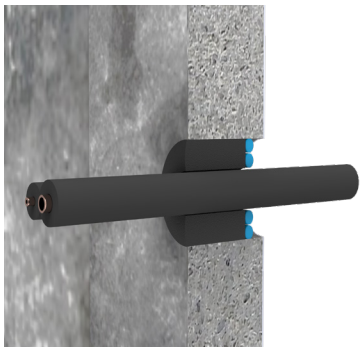
Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1x Air Conditioning pair coil* FR insulated	Wall Fill (one side of wall only)	70-100mm	60mm	-/90/90	FAR 4849
1x Air Conditioning pair coil* PE insulated	Wall fill with TWRAP (one side fill only with 300mm TWRAP on each side)	70-100mm	60mm	-/90/90	
2x Air Conditioning pair coil FR insulated bundled together**	Wall Fill with TWRAP (Sealant from one side only with TWRAP on each side)	120mm	60mm	-/90/90	
Up to 3x Air Conditioning pair coil* side by side	Wall Fill (one side of only)	110mm spaced at minimum 50mm apart	75mm	-/90/60	
	Wall Fill with TWRAP (Sealant from one side only with TWRAP on each side)			-/90/90	
Insulated copper or Steel up to 32mm pipe with 25mm FR insulation	Wall Fill (full depth)	110mm	Full depth of panel with 10mm fillet	-/90/60	
Insulated copper or Steel up to 32mm pipe with 20mm FR insulation	Locally Thickened Wall Fill with TWRAP™ (Sealant and TWRAP™ on each side)		Full depth of panel with 50mm fillet	-/90/90	

*A/C bundle to consist of two insulated copper pipes (pair coil) with insulation up to 20mm thick with or without: power cables up to12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.
**A/C bundles of two pair coil must have the power cables tucked inside the insulation between services, or TWRAP should be applied.

Speedpanel®

Speedpanel® Walls

Minimum 78mm Thickness



Service Specification	Installation Method	Hole Size	Fill Depth	/FRL	Report Reference
1x Air Conditioning pair coil* FR insulated	Wall Fill (one side of only)	100mm	60mm	-/120/90	FAR 4849
1x Air Conditioning pair coil* FR insulated	Wall fill with TWRAP (one side fill only with 300mm TWRAP on each side)	70-100mm	60mm	-/120/120	
Up to 3x Air Conditioning pair coil* side by side FR or PE	Wall Fill (one side of only)	110mm spaced at minimum 50mm apart	78mm	-/120/90	
	Wall Fill with TWRAP (Sealant from one side only with TWRAP on each side)			-/120/120	
1x Air Conditioning pair coil* PE insulated	Wall Fill (one side of only)	100mm	60mm	-/120/60	
	Wall Fill with TWRAP (Sealant from one side only with TWRAP on each side)			-/120/120	
Insulated copper or Steel up to 32mm pipe with 25mm FR insulation	Wall Fill (full depth with 10x10mm fillet)	110mm	78mm	-/120/60	
	Wall Fill (full depth with 50x50mm fillet)			-/120/120	

*A/C bundle to consist of two insulated copper pipes (pair coil) with insulation up to 20mm thick with or without: power cables up to12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.

PRONTO PANEL

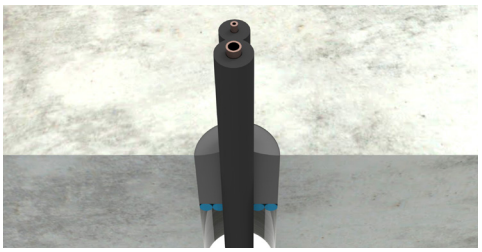
Minimum 60mm Thick panel

Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1 x Air conditioning pair coil FR insulated*	Panel fill (with a 25x25mm fillet)	70-100mm	60mm	-/60/60	FAR 4849

*Up to 3/8 and ¾ size pair coil with 13mm FR insulation with 2x power cables.

FLOOR SLABS

Minimum 120mm thick concrete slab As per AS 3600



Service Specification	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
1x Air Conditioning pair coil* FR insulated	Slab Fill (from one side only)	70-100mm	60mm	-/120/120	FAR 4849
1x Air Conditioning pair coil* PE insulated	Slab Fill with TWRAP (Sealant from one side only with TWRAP applied for 300mm top side only)	70-100mm	60mm	-/120/120	
2x or 3x Air Conditioning pair coil*	Slab Fill (from one side only)	120mm	60mm	-/120/120	
Up to 3x Air Conditioning pair coil* PE insulated	Slab Fill with TWRAP (Sealant from one side only with TWRAP applied for 300mm top side only)	110mm spaced at min. 50mm apart	Full depth	-/120/120	
	Slab fill Full depth (both sides)		Full depth	-/120/90	

FyreBOARD Maxilite® PANEL

60mm thick or two laminated boards 120mm thick

Service Specification	Installation Method	Hole Size	Fill Depth	FRL		Report Reference
				Maxilite Thickness		
				60mm	120mm	
1x Air Conditioning pair coil* FR insulated	Panel Fill	110mm	Full depth	-/120/60	-/120/60	FAR 4849
	Panel Fill with 300mm of TWRAP			-/120/120	-/120/120	

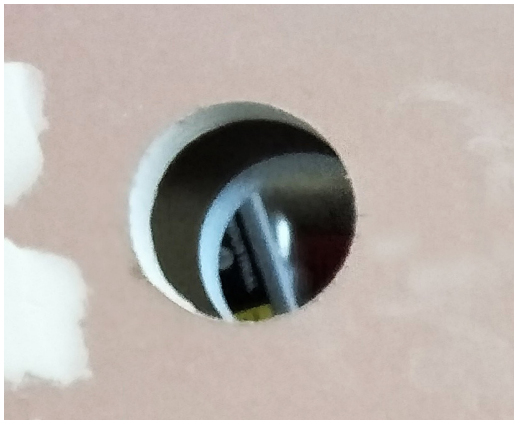
*A/C bundle to consist of two insulated copper pipes (pair coil) with insulation up to 20mm thick with or without: power cables up to12mm OD, data cables up to 6mm OD and one flexible or rigid PVC drain up to 20mm OD.

INSTALLATION SEALANT ONLY

WALLS

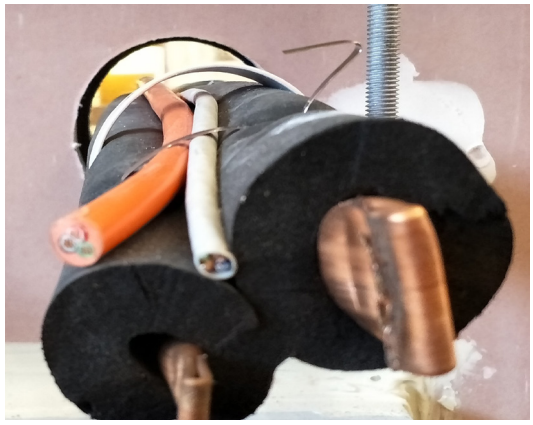
FyrePEX™ HP Sealant can be applied directly into the thickness of a fire barrier to provide fire separation using the following installation method. Note that single layer plasterboard walls will require a second layer of plasterboard locally to the penetration.

CUT HOLES



Cut opening to suit the penetration size as per the tables in this product manual. Ensure that the services are run straight through the centre line of the opening and is free from movement.

CLEAN OPENINGS



Surfaces to be sealed must be clean, dry and free from dust, dirt and grease. To achieve a clean finish, apply masking tape either side of the penetration to prevent sealant spreading onto unwanted areas.

FyrePEX™ HP SEALANT

Apply sealant with a standard applicator gun ensuring good surface contact is achieved by forcing sealant into the opening to be sealed. Ensure that the correct depth of sealant is applied as required for the specific installation - refer to tables on pages 6 - 11 (foam or other backing rods can be used to achieve the correct depth if required).

FINISH

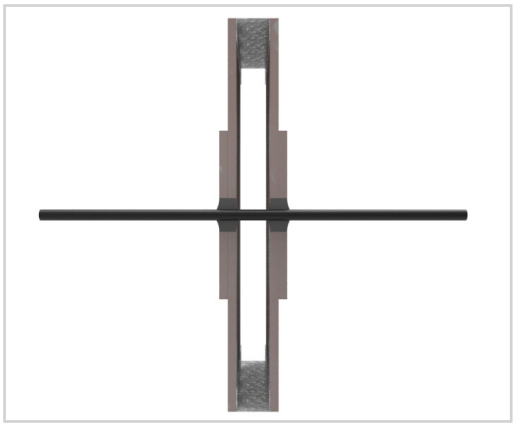
If necessary, tool within 5 minutes of application using a spatula dipped in soapy water, applying sufficient pressure to ensure good contact of the sealant against the joint surfaces. Remove masking tape. FyrePEX™ HP Sealant is easily cleaned off tools and hands with warm water.

INSTALLATION WALL SPECIFIC

SINGLE LAYER PLASTERBOARD

Additional thicknesses of plasterboard may be required locally around the penetration for single layer plasterboard walls

WALL FILL



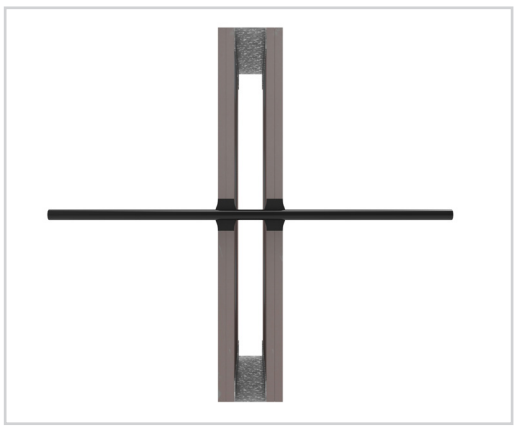
Penetration to be locally thickened with an additional layer of FR plasterboard on each side of the wall. FyrePEX™ HP Sealant then applied to the full depth of the plasterboard. Refer to service specific requirements on pages 6.

FyrePEX™ HP Sealant filled to the full depth of the plasterboard on both sides of the wall.

INSTALLATION WALL SPECIFIC

DOUBLE LAYER PLASTERBOARD

WALL FILL



FyrePEX™ HP Sealant applied to the full depth of the plasterboard on each side of the wall. Refer to service specific requirements on page 7.

FyrePEX™ HP Sealant applied to full depth of plasterboard.

INSTALLATION WALL SPECIFIC

CONCRETE/MASONRY

WALL FILL

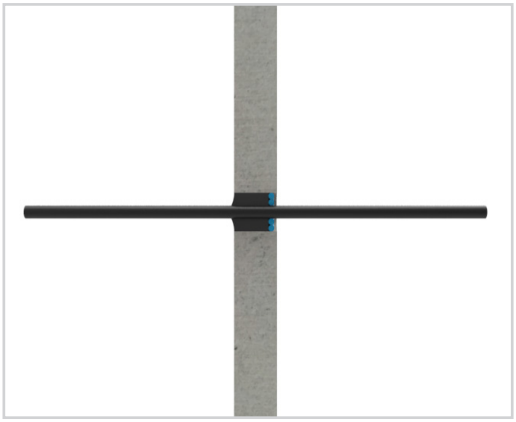
FyrePEX™ HP Sealant to be filled to depth specified. Refer to service specific requirements on page 8.

FyrePEX™ HP Sealant applied to a depth of at least 26mm from each side of the wall.

INSTALLATION

Hebel®, WALSC, SPEEDPANEL & PRONTO

WALL FILL



FyrePEX™ HP Sealant installed into wall opening to a depth of at least 60mm from one side only. Refer to service specific requirements on pages 9.

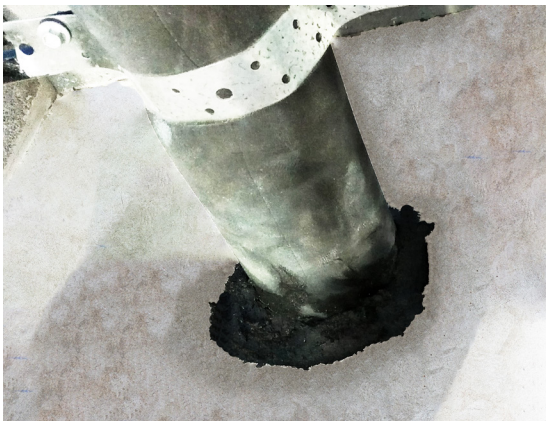
FyrePEX™ HP Sealant applied to depth of at least 60mm from one side of the wall with fillets if required.

INSTALLATION

CONCRETE FLOORS

FLOOR FILL

FyrePEX™ HP Sealant installed into Slab opening to a depth of at least 60mm from one side only. Refer to service specific requirements on page 11.



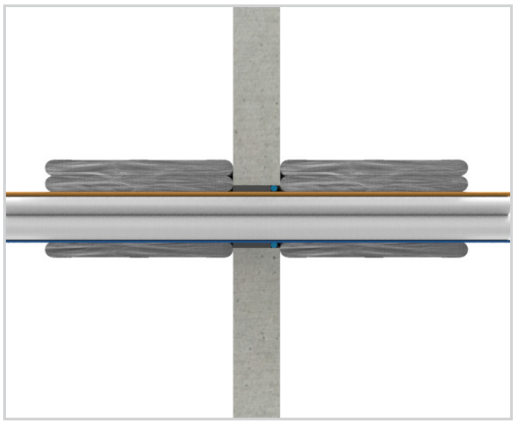
FyrePEX™ HP Sealant applied to depth of at least 60mm from top side of floor slab.

INSULATION PERFORMANCE

TWRAP™

In some instances, service penetrations with lagged copper pipes can draw too much heat during fire conditions and will not meet the thermal insulation requirements of the fire barrier's FRL. Where this occurs, TWRAP™ can simply be wrapped around the services for 300mm to better insulate the penetration. Refer to the barrier and service specific tables from page 5 for details on when TWRAP™ should be used.

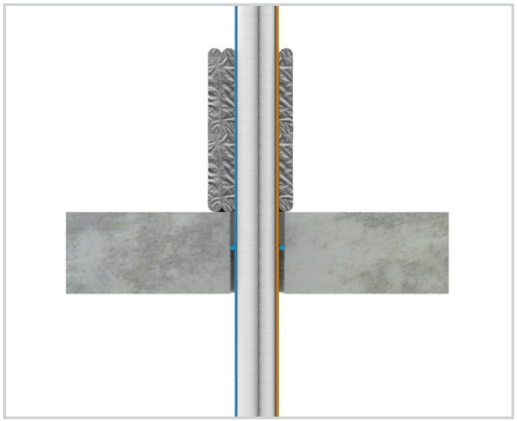
WALLS



FyrePEX™ HP Sealant applied to the correct depth of the wall.

TWRAP™ secured on each side of penetration using three strips of reinforced aluminium tape applied around the wrap's circumference. TWRAP™ applied on both sides of the wall. Alternatively, apply steel ties 50mm from each end and at 150mm centres in between.

FLOORS



FyrePEX™ HP Sealant applied to the correct fill depth.

On the top side of the slab, TWRAP™ secured on each side of penetration using three strips of reinforced aluminium tape applied around the wrap's circumference. Alternatively, apply steel ties 50mm from each end and at 150mm centres in between.

SYSTEM RANGE

FyrePEX HP

- Available in 310ml tube
- Suitable for PEX and air-con pipes and conduit

CLICK TO LEARN MORE

Item Number	Size	Colour	Box Qty
FYREPEX HP310	310ml Cartridge	Black/Dark Grey	25

TWRAP

CLICK TO LEARN MORE

Item Number	Description	Min Order Qty	Pallet QTY
TWRAP 300*	300mm wide, 25mm thick blanket	7620mm long roll	24
TWRAP 450*	450mm wide, 25mm thick blanket	7620mm long roll	12
TWRAP 600*	600mm wide, 25mm thick blanket	7620mm long roll	12
Tape	Foil tape, 95mm wide, 50m roll	1	N/A
Cable Tie SS 12 x 521	4.6mm wide x 521mm long	25	N/A
Cable Tie SS 12 x 910	4.6mm wide x 910mm long	25	N/A

** FyreWrap® can be substituted for TWRAP™*

FAQ

Q Can I run my air-conditioning control cables as a bundle with my pair coil?

A Yes, refer to specific installation pages for details on approved cables.

Q Is the opening size important?

A Yes, intumescent sealants require the perfect volume of sealant to expand and perform appropriately.

Q Do I need access to both sides of the wall?

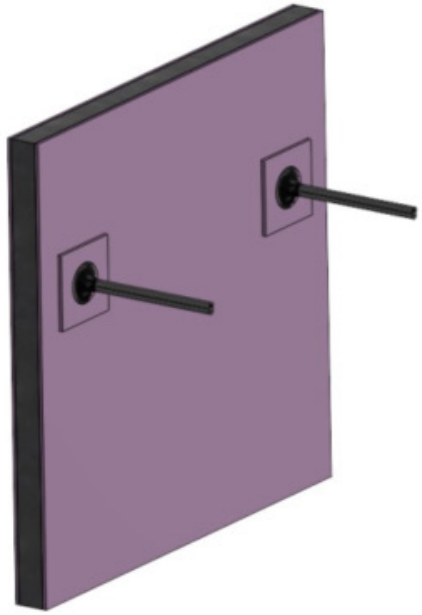
A Yes, except for Hebel or Speedpanel walls and concrete floor slabs which include approved one-sided installations.

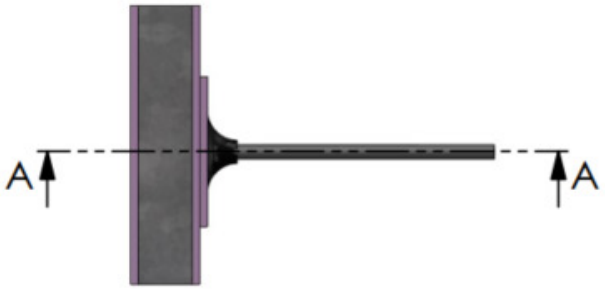
Q How far apart do the penetrations need to be spaced?

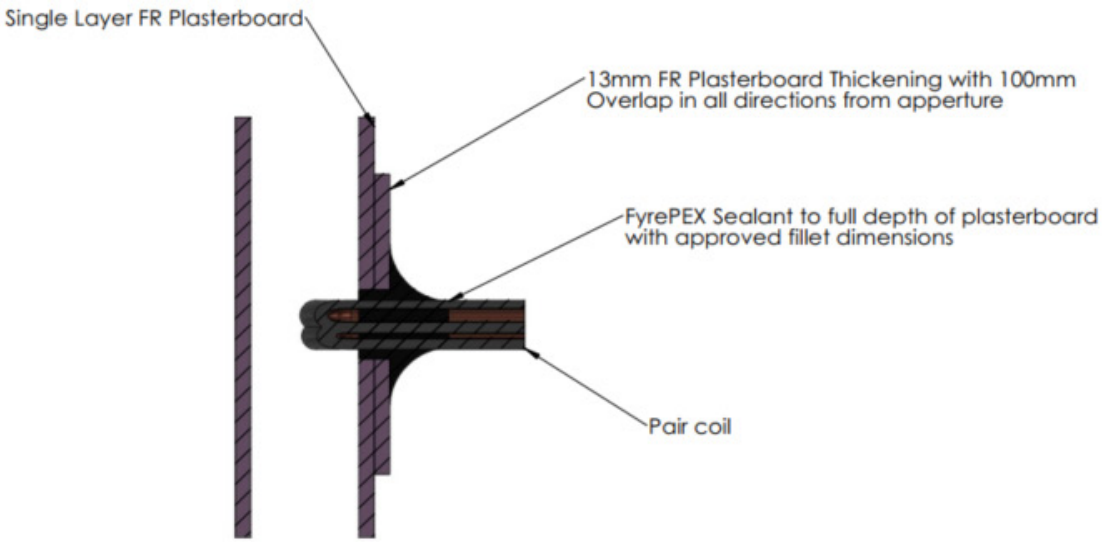
A Penetrations are required to be spaced 50mm apart.

SOCIAL MEDIA

LinkedIn YouTube







SECTION A-A

Drawing Name: Pair coil Penetration				**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:** / **No.:** / **NOTICE:**
Project Title: FRT 180358.1				**Fire resistance level:**	**Drawn By:** MP		NOTE: ALL DIMENSIONS ARE IN MILLIMETRES [mm]
Drawing No. : 1	**Sheet:** 1 of 1	**Date:** 5/08/2022	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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