





# SEALANT GUIDE FOR ELECTRICIANS

# 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.





Click To Watch:







#### **KEY FEATURES**

- Tested for PVC conduits and various types of copper and aluminium core cables
- Also suitable for HVAC&R and plumbing services
- Quick and easy to apply and install
- Tested with 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**

Electrical and data services

- Power cables
- Copper and aluminium core cables
- Data cables
- PVC Conduits

This manual specifically covers electrician service penetrations. For details on Plumbing or HVAC&R service penetrations with FyrePEX HP® sealant, visit: <a href="https://tree.com.au/product/fyrepex-hp-fire-rated-sealant/">https://tree.com.au/product/fyrepex-hp-fire-rated-sealant/</a>



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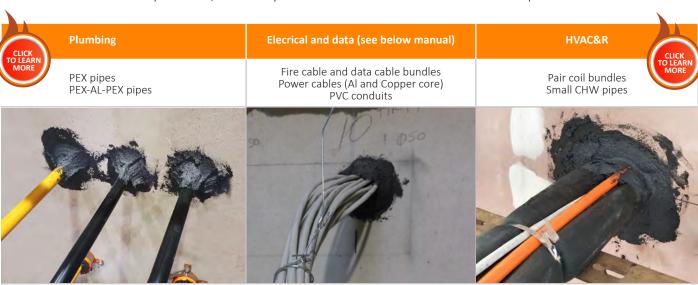


#### WHAT IS FYREPEX HP?



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 cable and conduit services that can be sealed with FyrePEX HP, however you can click the icons below to find trade specific installation manuals:



#### **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 <u>FyreSTRAP systems</u>

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:





#### 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<sup>TM</sup> 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<sup>TM</sup> HP Sealant penetration systems, our 25mm thick TWRAP<sup>TM</sup> 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<sup>TM</sup> to achieve the full FRL, please refer to the tables below for specific details.







#### **PVC CONDUITS**

#### **Power and Data**



<sup>\*</sup> Conduit may be empty or contain combinations of power cables up to 20 mm OD, 6 mm OD fibre optic cables (NBN) or 5mm OD CAT5 or CAT6 data cables.



1. Single Layer Plasterboard

2. Double Layer Plasterboard



3. Concrete/Masonry Wall

4. AAC Powerpanel/Hebel Wall













#### **POWER & DATA CABLES**

#### **Copper Core Cables**



<sup>\*</sup> AAC panel wall FRLs limted to 90 minutes maximum. For higher FRL cable penetration systems please refer to the FyreFLEX acrylic sealant.

# Cable penetrations through wall FyreSTRAP head of wall penetration



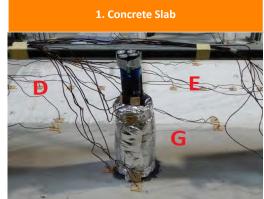


## **POWER CABLES**

## **Aluminium cables**



Wall/Floor Type	Service Specification		Installation Method	Hole Size	Fill Depth	FRL	Report Reference
	6: 1.0	Up to 16mm²	1. Slab Fill (with a 30x30mm fillet) with		60	1400/400	
	Single Power Cables	Up to 240mm <sup>2</sup>	300mm TWrap applied top side only	100mm	60mm	-/180/120	
Concrete <b>Floor slab</b> , Minimum 150mm thick		Up tp 5x 240mm²	1. Slab Fill (with a 30x30mm fillet) with 300mm TWrap ap-	(or 20mm annular gap around	60mm	-/180/120	
	Bundles of Power cables	Up tp 4x 240mm² single core + 120mm²	1. Slab Fill (with a 30x30mm fillet) with 300mm TWrap ap- plied top side only	cables)	60mm	-/180/180	
Concrete/ masonry walls	Single Power Cables	1x 16mm²	2. Wall Fill + 30x30mm fillet on both sides	50mm	60mm from both sides of the wall	-/120/120	FAR 4849
(135mm)	Bundles of power cables	Up to 1x 630mm²	2. Wall Fill + 300mm TWrap on both sides of the wall	50mm	135mm fill depth	-/120/120	
AAC Hebel/	Single power cables	1x 16mm²	2. Wall Fill + 30x30mm fillet on both sides	50mm	75mm	-/120/120	
<b>Waslc walls</b> (75mm)	Bundles of power cables	Up to 5x 630mm <sup>2</sup> single core al cable and 1x 120mm <sup>2</sup> single	3. Thickened with 60mm Maxilite with 300mm TWrap applied on both sides	120mm	Full depth of wall and Maxi- lite panel	-/120/120	





2. AAC Powerpanel/Hebel Wall Fill







# 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 4-6 (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**



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 page 4.



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

# **INSTALLATION WALL SPECIFIC**

# **DOUBLE LAYER PLASTERBOARD**



FyrePEX™ HP Sealant applied to the full depth of the plasterboard on each side of the wall. Refer to service specific requirements on page 4.



FyrePEX™ HP Sealant applied to full depth of plasterboard.







## **INSTALLATION WALL SPECIFIC**

# **CONCRETE/MASONRY**



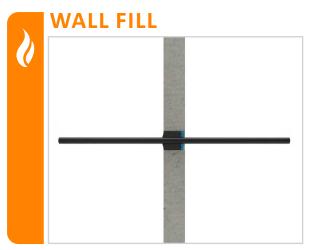
FyrePEX™ HP Sealant to be filled to depth specified. Refer to service specific requirements on page 4.



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

## **INSTALLATION**

#### Hebel®, WALSC & **SPEEDPANEL**



FyrePEX™ HP Sealant installed into wall opening to full depth. Note that Maxilite board may be required for large cables. Refer to service specific requirements on page 4-6.



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







## **INSTALLATION**

# **HEBEL/WALSC WITH MAXILITE PATCH**

# THICKEN WALL



For large AL core cables penetrating Hebel/Walsc walls an additional patch of 60mm Maxilite must be fixed to one side of the wall. Refer to service specific requirements on page 7.



Cut the Maxilite with hand or power saws to overlap the penetration by 100mm and fix to the wall with 10g x 100mm plasterboard screws 50mm in from each corner. Fill the sealant to the full depth of both wall and panel, and wrap with TWrap on both sides.

## **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 6.



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 power cables 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,  $TWRAP^{\text{TM}}$  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  $TWRAP^{\text{TM}}$  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.



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**







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

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





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

<sup>\*</sup> FyreWrap® can be substituted for TWRAP $^{\text{\tiny{TM}}}$ 





## **FAQ**

#### **Q** Can I use FyrePEX™ HP Sealant to seal cable only penetrations?

A FyrePEX™ HP Sealant is now approved for use with various aluminium and copper core cables. Refer tpo the above tables for specific test approvals.

#### **Q** Can I use FyrePEX™ HP Sealant to seal PVC conduits?

A Yes, up to 40mm. Refer to installation specifics for separate wall types.

#### **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. If TWrap is required to provide the full FRL, access to both sides will be needed.

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

A Penetratrations are required to be spaced 50mm apart.



#### **SOCIAL MEDIA**













# SEALANT GUIDE FOR HVAC&R

# FyrePEX™ HP



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

**HVAC&R** 

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/



# FyrePEXHP

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#### **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	FAD 4040
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	FAR 4849

#### **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	
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	Locally Thickened Wall Fill (each side of wall with 30x30mm fillet)	110mm	Depth of plaster (26mm) Sealant finished with 50mm fillet	-/90/60	FAR 4849
insulation	Locally Thickened Wall Fill with TWRAP™ (Sealant and TWRAP™ )		Depth of plaster (26mm) Sealant finished with 30mm fillet	-/90/90	

<sup>\*</sup> 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.

<sup>\*\*</sup> Half wall system- Service entering and exiting the same side of the wall. Wall stud required to be min. 92mm. Refer to drawing Page 17.







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

<sup>\*</sup> 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.







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

<sup>\*</sup> 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	
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	
	Wall Fill (one side of only)	110mm spaced at minimum 50mm apart	75mm	-/90/60	FAR 4849
Up to 3x Air Conditioning pair coil* side by side	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	



<sup>\*</sup>A/C bundle 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.

\*\*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		
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		
Harta Sartia Conditioning and	Wall Fill (one side of only)	110mm spaced at minimum 50mm apart		-/120/90	FAR 4849	
Up to 3x Air Conditioning pair coil* side by side FR or PE	Wall Fill with TWRAP (Sealant from one side only with TWRAP on each side)		78mm	-/120/120		
	Wall Fill (one side of only)	100mm			-/120/60	17111 1013
1x Air Conditioning pair coil* PE insulated	Wall Fill with TWRAP (Sealant from one side only with TWRAP on each side)		60mm	-/120/120		
Insulated copper or Steel up	Wall Fill (full depth with 10x10mm fillet)	110,000	70 m m	-/120/60		
to 32mm pipe with 25mm FR insulation	Wall Fill (full depth with 50x50mm fillet)	110mm	78mm	-/120/120		

<sup>\*</sup>A/C bundle 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.

## **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	-/90/90	FAR 4849

<sup>\*</sup>Up to 3/8 and 3/8 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	
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	540,4040
2x or 3x Air Conditioning pair coil*	Slab Fill (from one side only)	120mm	60mm	-/120/120	FAR 4849
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	

# FyreBOARD Maxilite® PANEL

# 60mm thick or two laminated boards 120mm thick



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

<sup>\*</sup>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.





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#### **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**



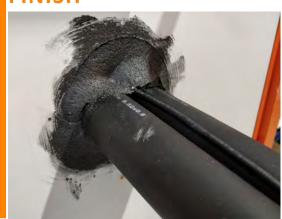
Surfaces to be sealed must be clean, dry and free from dust, dirt and grease. To achieve a clean finish, apply masking tape either side of the penetration to prevent sealant spreading onto unwanted areas.

#### 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 4-9 (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 4.



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

# INSTALLATION WALL SPECIFIC

# DOUBLE LAYER PLASTERBOARD



FyrePEX™ HP Sealant applied to the full depth of the plasterboard on each side of the wall. Refer to service specific requirements on page 5.



FyrePEX™ HP Sealant applied to full depth of plasterboard.







# **INSTALLATION WALL SPECIFIC**

# **CONCRETE/MASONRY**



FyrePEX™ HP Sealant to be filled to depth specified. Refer to service specific requirements on page 6.



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

# **INSTALLATION**

#### Hebel®, WALSC, **SPEEDPANEL & PRONTO**



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 7-8.



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



# **INSTALLATION**

## **CONCRETE FLOORS**



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 9.



Fyre  $PEX^{TM}$  HP Sealant applied to depth of at least 60mm from top side of floor slab.







# INSULATION PERFORMANCE

#### **TWRAP<sup>TM</sup>**

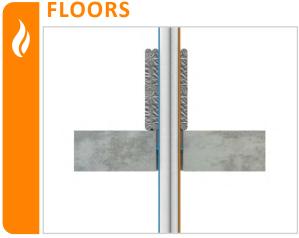
In some instances, service penetrations with lagged copper pipes can draw too much heat during fire conditions and will not meet the thermal insulation requirements of the fire barrier's FRL. Where this occurs,  $TWRAP^{\text{TM}}$  can simply be wrapped around the services for 300mm to better insulate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



FyrePEX™ HP Sealant applied to the correct fill depth.



On the top side of the slab, TWRAP<sup>™</sup> 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**







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

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





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	

<sup>\*</sup> 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 Penetratrations are required to be spaced 50mm apart.



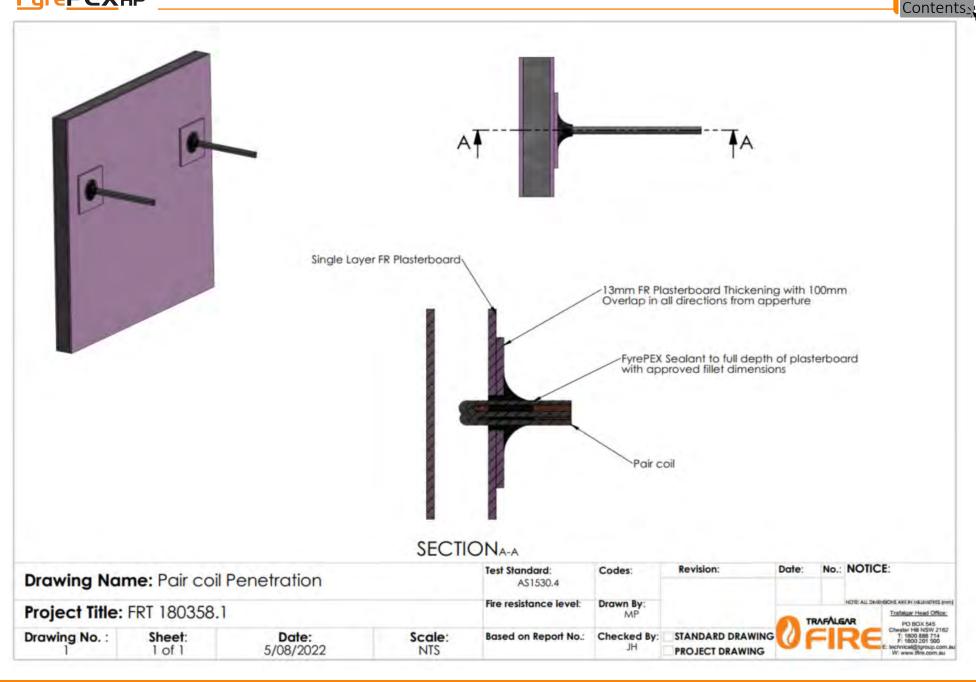
#### **SOCIAL MEDIA**







Click here to go back to











# SEALANT GUIDE FOR PLUMBERS

# 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.





Click To Watch:







#### **KEY FEATURES**

- Specifically designed for water and gas PEX pipe penetrations
- Also suitable for HVAC&R and electrical services
- Quick and easy to apply and install
- FyreSHEATH option helps reduce wastage
- 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**



- PEX pipes
- PEX-AL-PEX pipes
- Insulated steel and copper

**Plumbers** 

This manual specifically covers plumbing service penetrations. For details on electrician or HVAC&R service penetrations with FyrePEX HP® sealant, visit:

https://tfire.com.au/product/fyrepexhp-fire-rated-sealant/







# **FyreSHEATH**



FyreSHEATH is a system designed to simplify the use of FyrePEX™ High-Performance Sealant, ensuring a compliant amount of sealant everytime to achieve the FRL required up to a -/120/120, while minimising sealant waste from overfilling into the wall cavity and saving you money.

Click To Watch:







#### **KEY FEATURES**

- No need for plasterboard patching
- Hole size is no longer critical
- Sets the annular gaps and fill depths automatically
- Easy compliance checks for certification
- Improved quality control
- Suitable for single and double layer plaster walls
- Tested to AS1530.4-2014 and compliant with AS4072.1

#### **APPLICATIONS**

Plumbers

PEX- A PEX- B

PEX-AL-PEX pipes









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## 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:





#### 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<sup>TM</sup> 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<sup>TM</sup> HP Sealant penetration systems, our 25mm thick TWRAP<sup>TM</sup> 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<sup>TM</sup> to achieve the full FRL, please refer to the tables below for specific details.



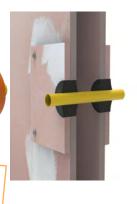




## **PLASTERBOARD 60MIN**

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





Service Specification		Installation Method	Hole Size	Fill Depth	FRL	Report Reference
PEX-A PEX-B	16mm	Locally Thickened Wall Fill (each side of wall)	60mm	Depth of plaster (26mm)	-/60/60	FAR 4849
PEX-AL-PEX		50mm diam. Sheath Fill (each side of wall)	25mm	Depth of sheath (25mm)		
PEX-A	EX-B 20mm	Locally Thickened Wall Fill (each side of wall)	60mm	Depth of plaster (26mm)		
PEX-AL-PEX		65mm diam. Sheath Fill (each side of wall)	25mm	Depth of sheath (25mm)		
PEX-A PEX-B PEX-AL-PEX	20mm (half wall)	Locally Thickened Wall Fill (one side of wall thickened)	60mm	Depth of plaster and patch, finished with 30mm fillet*		FAS220102
PEX-A PEX-B	25mm	Locally Thickened Wall Fill (each side of wall)	65mm	Depth of plaster (26mm)		FAR 4849
PEX-AL-PEX	25mm	Locally Thickened Wall Fill (each side of wall)	65mm	Depth of plaster (26mm) Sealant finished with 25mm fillet		ran 4849

<sup>\*</sup> Half wall system- Service entering and exiting the same side of the wall. Wall **stud required to be min. 92mm**. Refer to drawing Page 21









## **PLASTERBOARD 90MIN**

Single-Layer plasterboard walls with additional second layer fixed around the penetration **64mm Stud systems** 





Service Specificati	Service Specification		Hole Size	Fill Depth	FRL	Report Reference
PEX-A PEX-B	16mm	Locally Thickened Wall Fill (each side of wall)	60mm	Depth of plaster (26mm)		
PEX-AL-PEX			25mm	Depth of sheath (25mm)		
PEX-A			60mm	Depth of plaster (26mm)		
PEX-B 20r PEX-AL-PEX	20mm	65mm diam. Sheath Fill (each side of wall)	30mm	Depth of sheath (25mm)	-/90/90	FAR 4849
PEX-A PEX-B	25mm	Locally Thickened Wall Fill (each side of wall)	65mm	Depth of plaster (26mm)		
PEX-AL-PEX	25mm	Locally Thickened Wall Fill (each side of wall)	65mm	Depth of plaster (26mm) Sealant finished with 25mm fillet		





## **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
PEX-A	16 mm	Wall Fill (each side of wall)	60mm	Depth of plaster (26mm)		
PEX-B 16mm PEX-AL-PEX		50mm diam. Sheath Fill (each side of wall)	25mm	Depth of sheath (25mm)		
PEX-A	20	Wall Fill (each side of wall)	60mm	Depth of plaster (26mm)		
PEX-B 20mm PEX-AL-PEX		65mm diam. Sheath Fill (each side of wall)	30mm	Depth of sheath (25mm)	-/120/120	FAR 4849
PEX-A PEX-B	25mm	Wall Fill (each side of wall)	65mm	Depth of plaster (26mm)		
PEX-AL-PEX	25mm	Wall Fill (each side of wall)	65mm	Depth of plaster (26mm) Sealant finished with 25mm fillet		





# **CONCRETE/MASONRY**

Minimum 116mm thick **Constructed as per AS3600 and AS3700** 





Service Specificat	ion	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
PEX-A PEX-B	16mm	Wall Fill (each side of wall)	60mm	26mm Both sides of wall		
PEX-AL-PEX	10111111	50mm diam. Sheath Fill (each side of wall)	25mm	Depth of sheath (25mm)		
PEX-A		Wall Fill (each side of wall)	60mm	26mm Both sides of wall	-/120/120	FAR 4849
PEX-B PEX-AL-PEX	20mm	65mm diam. Sheath Fill (each side of wall)	30mm	Depth of sheath (25mm)		
PEX-A PEX-B	25mm	Wall Fill (each side of wall)	65mm	26mm Both sides of wall		
PEX-AL-PEX	25mm	Wall Fill (each side of wall)	65mm	26mm Both sides of wall Sealant finished with 25mm fillet		

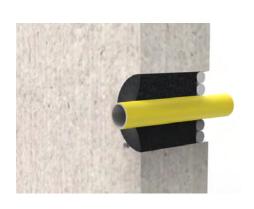






# Hebel®

# AAC Powerpanel Wall Systems **Minimum 75mm Thickness**



Service Specification	n	Installation Method	Hole Size	Fill Depth	FRL	Report Reference
PEX-A PEX-B PEX-AL-PEX	16mm	Wall Fill (one side of wall only)	40mm	60mm		
PEX-A PEX-B PEX-AL-PEX	20mm	Wall Fill (one side of wall only)	50-60mm	60mm	-/90/90	FAR 4849
PEX-A PEX-B	25mm	Wall Fill (one side of wall only)	65mm	60mm		
PEX-AL-PEX	25mm	Wall Fill (25mm both side of wall)	67mm	25mm Sealant finished with 25mm fillet		

Note: One sided install provides 2-way FRL

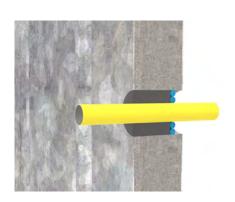






# Speedpanel®

# Speedpanel® Walls Minimum 78mm Thickness



Service Specification		Installation Method	Hole Size	Fill Depth	FRL	Report Reference
PEX-A PEX-B	16mm	Wall Fill (one side of only)	40mm	60mm		
PEX-AL-PEX	16mm	Wall Fill(one side of only with 10x10mm fillet)	40mm	78mm		
PEX-A PEX-B	20mm	Wall Fill (one side of only with 10x10mm fillet)	50-60mm	60mm	-/120/120	FAR 4849
PEX-AL-PEX	20mm	Wall Fill (full depth with 10x10mm fillet)	50-60mm	78mm		

Note: One sided install provides 2-way FRL



## **PRONTO PANEL**

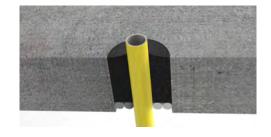
## Minimum 60mm thick panel



Service Specification		Installation Method	Hole Size	Fill Depth	FRL	Report Reference	
PEX-AL-PEX Pipe	20mm	50mm sheath fill (each side of wall)	33mm	Full depth of sheath	-/120/60	FAD 4040	
PEX-A	20mm	Panel fill (with a 25x25mm fillet)	50mm	Full depth	-/120/90	FAR 4849	

## **FLOOR SLABS**

# Minimum 120mm thick concrete slab As per AS 3600



Service Specification		Installation Method	Hole Size	Fill Depth	FRL	Report Reference
PEX-B PEX-AL-PEX	16mm	Slab Fill (from one side only)	40mm	60mm	-/120/120	FAR 4849

## FyreBOARD Maxilite® PANEL

# 60mm thick or two laminated boards 120mm thick



Service Specification					FRL		Barrant
		Installation Hole Siz		Hole Size Fill Depth	Maxilite Thickness		Report Reference
				60mm	120mm		
PEX-B	16,000	Panel Fill	50-60mm	Full donth	/120/00	-/120/90	FAD 4940
PEX-AL-PEX	16mm			Full depth	-/120/60	-/120/120	
PEX-A or B	20	30mm diam. Sheath Fill (each side of wall)	30mm	Depth of sheath (25mm)	-/120/120	N/A	FAR 4849
PEX-AL-PEX	20mm				-/120/30	-/120/120	







# 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 5-11 (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 FyreSHEATH

## **WALLS**

FyreSHEATH system can be installed to the face of a fire wall on both sides as an alternative installation option. This reduces waste by preventing sealant overflow into the wall cavity, and controls the annular gap requirements ensuring compliance. Note that for single layer plasterboard walls, no local thickening is required.

#### **PREPARE**



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.

#### FIX



Fix the two halves of the metal FyreSHEATH around the pipe to both sides of the wall with 8g x 25mm plasterboard screws (or M6 masonry anchors into concrete barriers) using the pre-formed fixing tabs.

## **SECURE**



Install a stainless steel cable tie around the outside perimeter of the FyreSHEATH and repeat on both sides of the wall.

## FyrePEX™ HP SEALANT



Fill the FyrePEX™ HP sealant into the cavity formed with the FyreSHEATH to the full depth, finishing flush with the lip of the metal FyreSHEATH.





# INSTALLATION WALL SPECIFIC

# SINGLE LAYER PLASTERBOARD

Single layer plasterboard walls should use FyreSHEATH for PEX pipes, otherwise additional thicknesses of plasterboard is required locally around the penetration.

## FyreSHEATH SYSTEM



FyrePEX™ HP Sealant filled into 25mm deep metal sheath. No additional wall thickening or patching required.

Metal sheath secured to plasterboard wall using minimum 8gx25mm screw fixings. FyrePEX $^{\text{TM}}$  HP Sealant to be filled into a metal sheath from each side of the wall. Refer to service specific requirements on pages 5 and  $\underline{6}$ .

### **WALL FILL**



Penetration to be locally thickened with an additional layer of FR plasterboard on each side of the wall. FyrePEX<sup>TM</sup> HP Sealant then applied to the full depth of the plasterboard. Refer to service specific requirements on pages  $\underline{5}$  and  $\underline{6}$ .



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

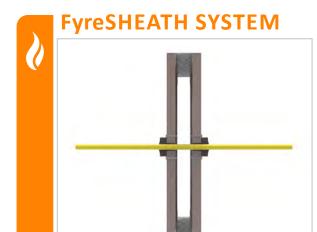






## **INSTALLATION WALL SPECIFIC**

## **DOUBLE LAYER PLASTERBOARD**



FyrePEX™ HP Sealant to be filled into a metal sheath from each side of the wall. Refer to service specific requirements on page 7.



Metal sheath secured to plasterboard wall using minimum 8gx25mm screw fixings.

# **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.



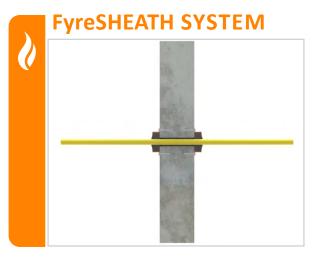
FyrePEX™ HP Sealant applied to full depth of plasterboard.





## **INSTALLATION WALL SPECIFIC**

# **CONCRETE/MASONRY**



FyrePEX™ HP Sealant to be filled into a metal sheath from each side of the wall. Refer to service specific requirements on page 8.



Metal sheath secured to concrete or masonry wall using M6 masonry anchors.



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

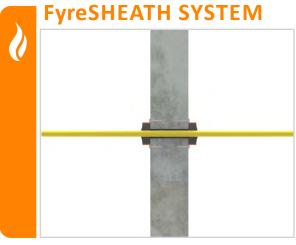


FyrePEX™ HP Sealant applied to a depth of at least 26mm from each side of the wall.



## **INSTALLATION**

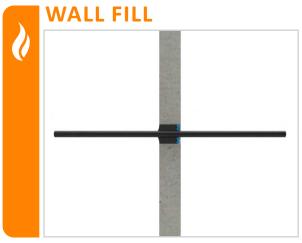
# Hebel®, WALSC, SPEEDPANEL & PRONTO



FyrePEX™ HP Sealant to be filled to depth specified. Refer to service specific requirements on pages 9-11.



FyreSHEATH secured to the wall using minimum  $8g \times 50mm$  screws.



FyrePEX<sup>TM</sup> HP Sealant installed into wall opening to a depth of at least 60mm from one side only. Refer to service specific requirements on pages 9-11.



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



## **INSTALLATION**

## **CONCRETE FLOORS**



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<sup>™</sup> HP Sealant applied to depth of at least 60mm from top side of floor slab.



## **SYSTEM RANGE**





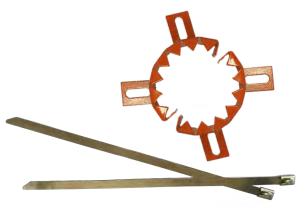


- Available in 310ml tube
- Suitable for PEX and air-con pipes and conduit

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

## **SYSTEM COMPONENTS**







- Ensures visible compliance
- Reduces FyrePEX™ HP wastage

CCICKABLE CODES Item Number	Size	Kit	Qty
FYREPEX Sheath 50mm Set	50mm	2 Sheaths (4 halves) 2 x SS cable ties	1
FYREPEX Sheath 65mm Set	65mm	2 Sheaths (4 halves) 2 x SS cable ties	1





## **FAQ**

#### **Q** Is the opening size important?

A Yes, intumescent sealants require the perfect volume of sealant to expand and perform appropriately. Using FyreSHEATH removes the need for larger openings.

#### 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 Penetratrations are required to be spaced 50mm apart.



#### **SOCIAL MEDIA**









