TRAFALGAR FIRE FyreFLEX TWRAP

PLUMBERS

SEALANT AND WRAP GUIDE FOR PLUMBERS

FyreFLEX®

Sealant and TWRAP™

Trafalgar Fire's FyreFLEX® Sealant is a water based, low VOC and environmentally friendly fire-resistant acrylic sealant which makes it perfect for fire stopping cable and metal pipe penetrations through fire rated barriers. FyreFLEX® is the one of the most fire tested sealants in the market with more than 30 fire tests. This manual provides information on tested systems for fire sealing of cable services through a wide range of fire rated barriers.

NCC 2022 READY

KEY FEATURES

- Non-toxic, low VOC sealant
- Fully encapsulated 25mm TWRAP™ material
- Simple installation details
- Fire tested to AS1530.4:2014
- Tested in Hebel®, Speedpanel®, Plasterboard and more
- Top side only install for floors

APPLICATIONS

Plumbing / Active Fire:

- Copper Pipes up to DN150
- Steel pipes up to NB150

For details on electrical penetrations or control/expasion joints with FyreFLEX® sealant, contact **Trafalgar Fire at technical@tgroup.com.au**

TABLE OF CONTENTS

BENEFITS - FyreFLEX® SEALANT

WHAT IS FyreFLEX®?

FyreFLEX® sealant is a water based, low VOC and environmentally friendly fire-resistant acrylic sealant with slight intumescent properties which makes it perfect for fire stopping cable and metal pipe penetrations through fire rated barriers. FyreFLEX® is the one of the most fire tested sealants in the market with more than 30 fire and acoustic tests, and assessments spanning over 30 years. FyreFLEX® has been approved for use in a large range of control joint or firestopping applications required under the National Construction Code (NCC).

This technical manual in particular relates to common plumbing services, including copper and steel pipes, however FyreFLEX® Sealant is used in many other applications including; control/expansion joints, electrical penetrations, as well as acting as a seal for many of our other systems (FyreBOX™, FyreBOARD Maxilite® etc.).

APPLICATIONS

FyreFLEX® and TWRAP™ is suitable for:

Plumbing /fire
- Copper Pipes
- Steel Pipes

Power Cables
- Comms and data cables
- Cables power
- Cable bundles and trays

This manual specifically covers plumbing penetrations, for details on electrical penetrations or control/expansion joints with FyreFLEX® Sealant, contact Trafalgar Fire on technical@tgroup.com.au

Note: For plastic pipe penetrations (PVC, PEX, etc.) refer to our technical manual for systems such as FyrePEX HP intumescent Sealant, or FyreCHOKE Collars.

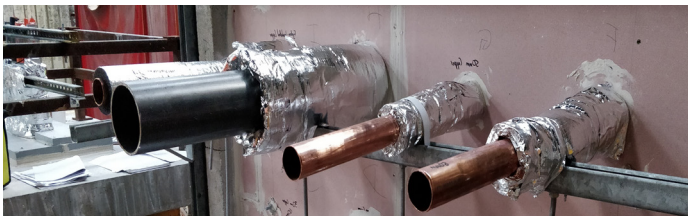
BENEFITS - TWRAP™ INSULATION SYSTEMS

WHAT IS TWRAP™

TWRAP™ is a 25mm thick fully foil encapsulated, fire protection wrap engineered to provide insulation performance on service penetrations as required by the National Construction Code (NCC) and tested in accordance with AS1530.4-2014.

TWRAP™ must be used in conjunction with Trafalgar Fire's parent penetration sealing systems to provide the integrity and insulation rating, for services that conduct heat through fire barriers such as metal pipes and cables.

The aluminium foil, fiberglass-reinforced outside layer completely encapsulates the core and provides additional handling strength, protection from tearing and provides a high resistance to mould growth.

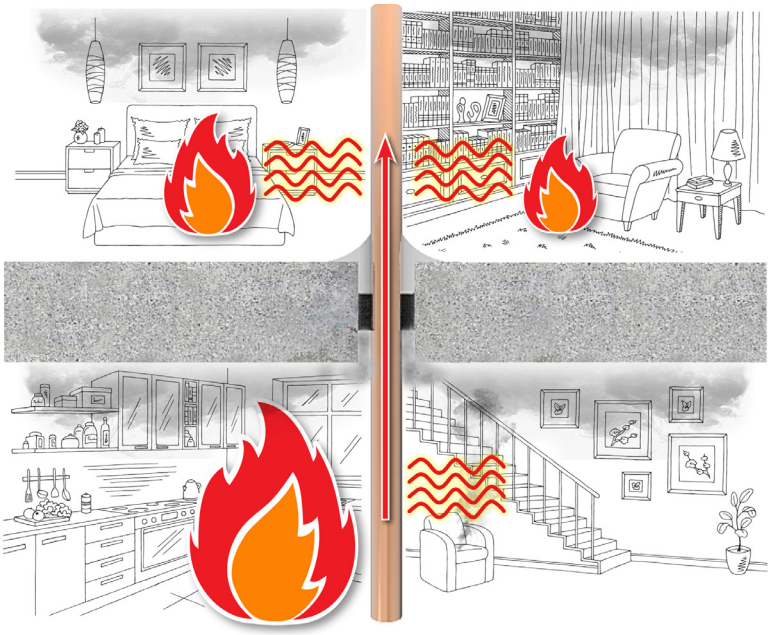


WHY IS TWRAP™ NEEDED?

If a fire were to break out within a fire compartment, the temperatures within that compartment can quickly reach 1000°C. This heat can be conducted through any metal service penetrations, typically pipes, cables and cable tray, into the adjoining fire compartment.

The increased temperatures can ignite any combustible materials in close proximity to the service penetrations, allowing the fire to spread without flames directly breaching the fire barrier.

Service penetrations are essential in all modern buildings, and the building code (NCC) requires these penetrations to be fire stopped for integrity as well as insulation performance which is where TWRAP™ is required.



SPECIFICATIONS

FyreFLEX®

SPECIFICATIONS

Movement Capabilities	+/- 10% movement
Colour	White- for service penetrations and easy painting Grey- colour matched to concrete or blockwork
Testing	Tested and approved to AS1530.4-2014 and AS4072.1 in accordance with the National Construction Code (NCC) along with TWRAP™, as part of the tested system
Safety	Non-toxic, low VOC Please refer to the system MSDS for full safety information
Shelf Life	24 months from date of manufacture

TWRAP™

SPECIFICATIONS

Description	TWRAP™ is a 25mm thick fully foil encapsulated, fire protection wrap engineered to provide insulation performance on service penetrations as required by the National Construction Code (NCC) and tested in accordance with AS1530.4-2014
Dimensions	25mm thickness + roll widths 300mm, 450mm and 600mm and 7.6m long
Fixing requirements	4.6mm wide stainless steel cable ties and Aluminium reinforced tape
Safety	Mould growth resistance, asbestos free
Testing	Tested and approved to AS1530.4-2014 and AS4072.1 in accordance with the National Construction Code (NCC) as part of the tested system with FyreFLEX® sealant

COMPLIANCE

NCC 2022 READY

COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE (NCC)

Where any service penetrates an internal fire barrier that has a set Fire Resistance Level (FRL) with respect to integrity and insulation, the installation must comply with the following:

A - A Fire Tested System – An identical prototype, installed in the same wall or floor system that has been tested/approved to the fire testing standard AS1530.4 and AS4072.1 which has achieved an FRL of equal to or greater than that required by the fire barrier.

B - An Assessed System – A system from an assessment report written by a NATA accredited lab, based on actual Fire Test data that allows variations within the limits of AS4072.1.

For example, if the site has a-/90/90 plasterboard wall system with an electrical cable penetration, the system used to seal the cables must have been fire tested at an approved laboratory *with* electrical cables *in* the same wall type *and* fire tested for at least 90 minutes without failing the integrity or insulation criteria.

Compliance will only be achieved when the installation on site mirrors the tested system.

Refer to FCO 1579 available on our website.

FyreFLEX® APPROVALS

Fire testing is a timely and expensive process, and it is impossible to test every single possible service configuration 'identically' in a practical sense.

Under the building code C3.15(a)(i)(B) a testing authority is permitted to write a formal assessment confirming the likely fire performance (FRL) of the penetration. The guidelines for what can and can't be included in a formal assessment are outlined in AS4072.1.

Our FyreFLEX® sealant fire assessment report FCO 1579 is written by expert Fire Engineers from a NATA approved laboratory which provides evidence of compliance under the NCC. The report summaries the decades of fire test data for FyreFLEX® sealant and allows for a large range of practical applications in various walls and floor penetrations. FCO 1579 is available for download at www.tfire.com.au

PRE-INSTALL NOTES

ANNULAR GAP

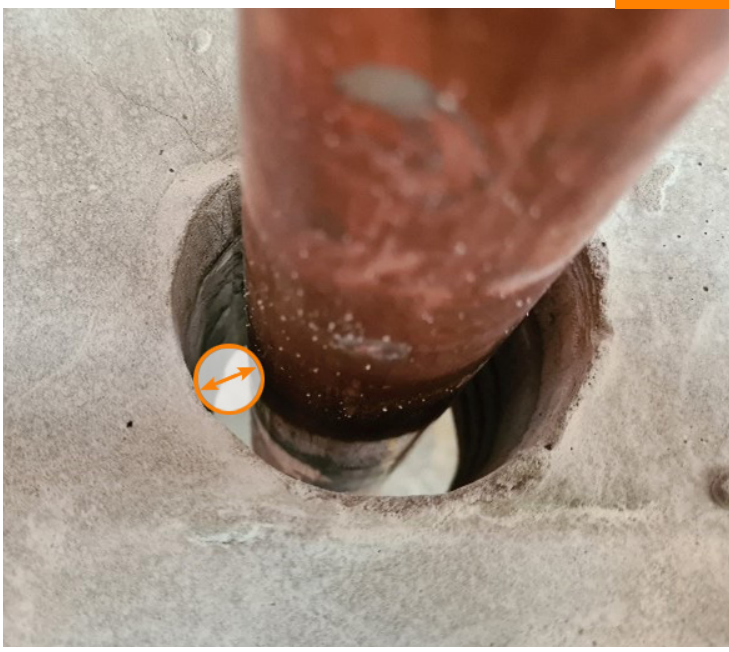
The annular gap is the space between a service and the hole. Annular gaps are important as they allow for movement between the building and service. If metal pipes are cast into concrete, it can cause damage with building movement over time.

FyreFLEX® Sealant is used to fill the annular gap to form a seal to stop the spread of fire while allowing movement preventing damage to the building and the service.

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:

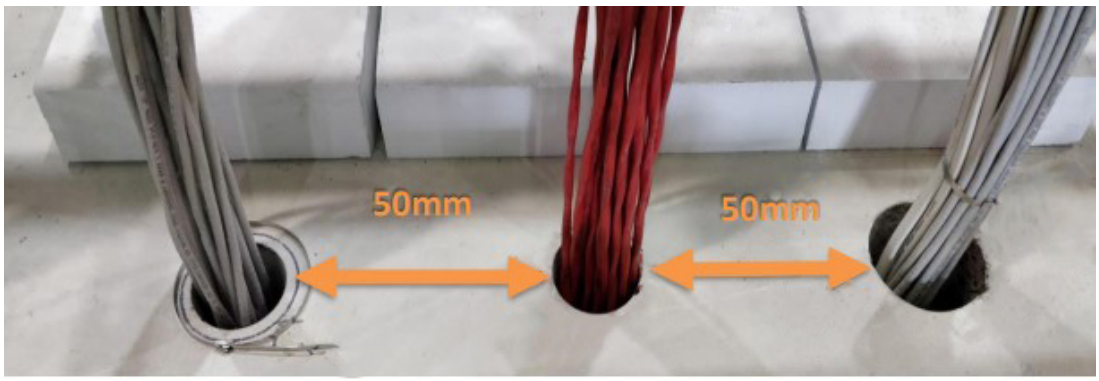
- FyreBATT
- FyreBOARD Maxilite®
- FyreSET® Mortar
- FyrePLUG® Pillow

Refer to your preferred system's 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? FyreFLEX® Sealant and TWRAP™ for metal pipe penetrations is approved to have penetrations as close as 50mm away from one another (i.e. 50mm between openings, edge-to-edge).



HYDRANT PIPE BRACKETS

A common support method for hydrant pipes is a support bracket on the top side of the slab. To reflect this and incorporate it into our range of approvals, Trafalgar Fire have specifically tested for this installation method (written into the assessment report FCO 1579). Simply apply the fillet of FyreFLEX® Sealant around the bracket and apply TWRAP™ over the top.

Where the TWRAP™ interfaces the bracket, it can be slit so that a fold of TWRAP™ can overlay the bracket itself. The slit is then sealed generously with FyreFLEX® sealant (including within the channel of the bracket where applicable).

DO I NEED TO WRAP WATER FILLED PIPES?

While it does make good practical sense that a pipe filled with water might not get as hot in the event of a fire, and therefore require less wrap or none at all, unfortunately this is not the case with any wrap systems across the market. In fire testing to AS1530.4, pipes are required to be tested empty, this is to represent the worst-case scenario where perhaps the pipe has been damaged and the pipe is no longer charged. This is why you'll find that all metal pipes, even those with water inside, require wrap.

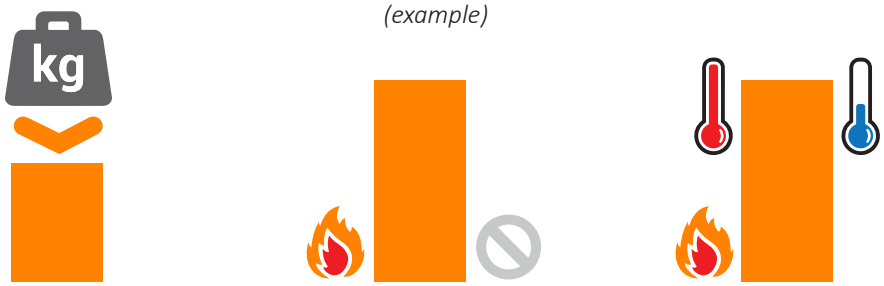
FIRE RESISTANCE LEVEL

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 240/240/240

(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 copper pipe 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 4 hour load bearing wall would be written as -/240/240.

INTEGRITY

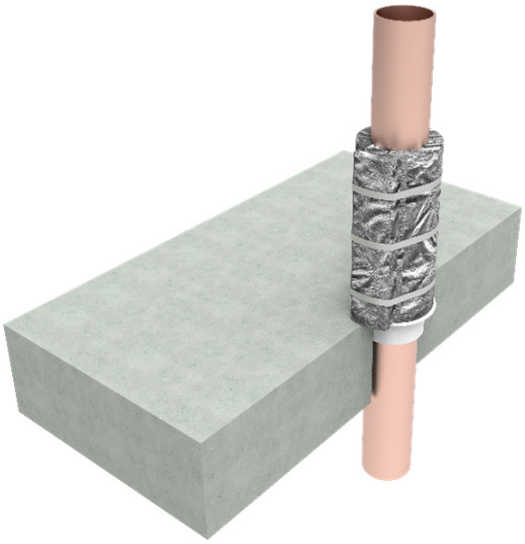
The FyreFLEX® system will achieve the integrity performance for up to 4 hours physically stopping the direct spread of fire, however the insulation performance of the penetration will be limited to the type of wall being used and conductivity of the services in the penetration.

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 the FyreFLEX® Sealant penetration systems, our 25mm thick TWRAP™ foil encased blanket can be wrapped around the services to achieve up to 3 hours of insulation performance.

FLOOR PENETRATIONS

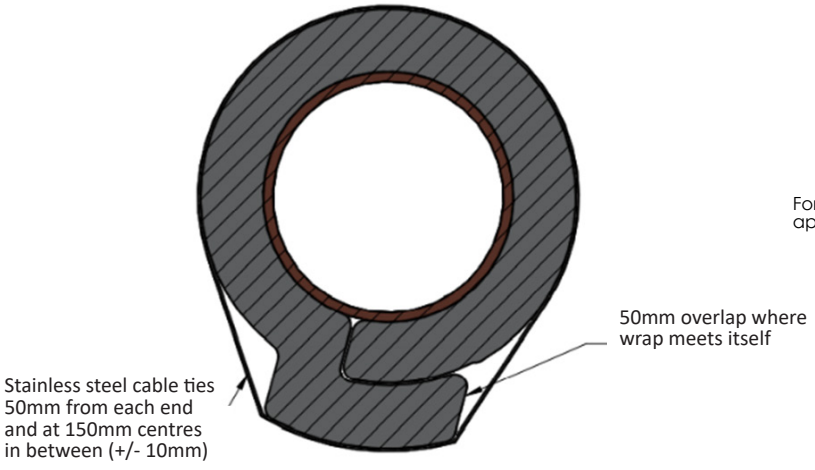
CONCRETE FLOOR SLABS

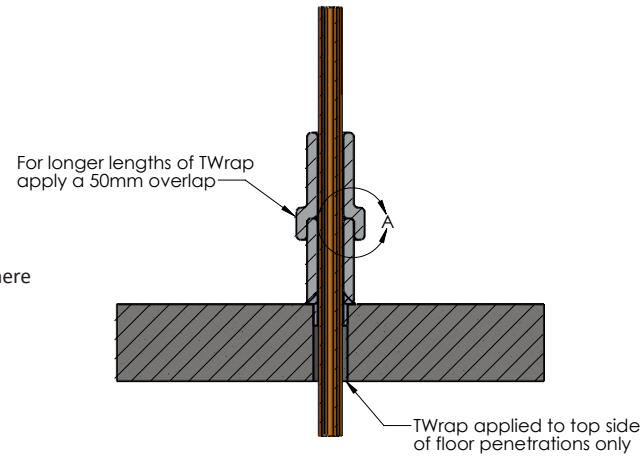


FyreFLEX® sealant specifications	
Fillet size	40 x 40mm
Max Annular gap	10-20mm
Fill depth	60mm from the top side

Pipe Type	Pipe Size	TWRAP™ length			
		FRL	-/90/90	-/120/120*	-/180/180
Copper pipe	Up to DN50		300mm	300mm	800mm & 300mm*
	Up to DN100		600mm	600mm	800mm & 300mm*
	Up to DN 150		850mm	850mm	-
			UniGUARD™ - CLICK HERE		
Steel pipe	Up to NB50		300mm	300mm	450mm
	Up to NB100		450mm	450mm	450mm
	Up to NB 150		600mm	600mm	600mm & 300mm*
			UniGUARD™ - CLICK HERE		-

*Indicates a second layer of TWRAP™ located at the base of the penetration.





For large metal pipes the UniGUARD™ can be used instead of TWRAP™.
Refer to the technical drawing on page 30 or the UniGUARD™ technical manual for additional details.

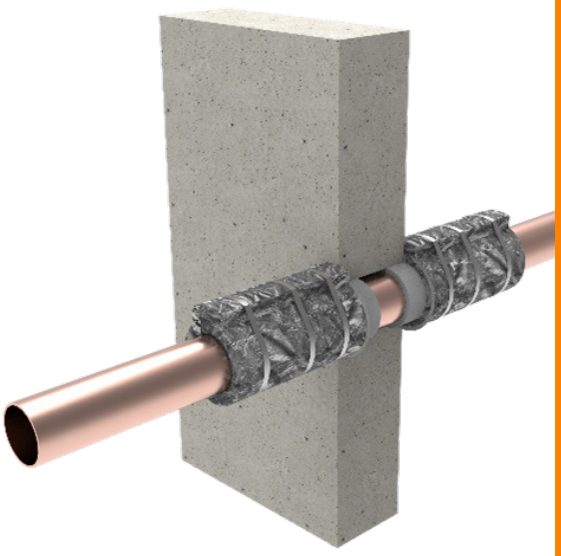
WALL PENETRATIONS

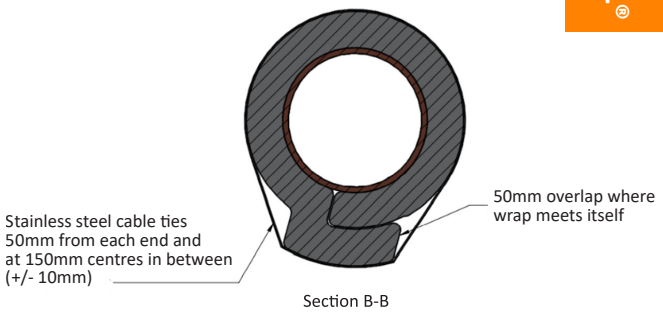
CONCRETE AND MASONRY WALLS

FyreFLEX® sealant specifications		
Fillet size		15 x 15mm
Max Annular gap		10mm
Fill depth		26mm from the both sides

Pipe Type	Pipe Size	TWRAP™ length	
		FRL	-/120/120
Copper pipe	Up to DN50		300mm
	Up to DN100		600mm
	Up to DN 150		1100 & 300mm*
Steel pipe	Up to NB50		300mm
	Up to NB100		450mm
	Up to NB 150		900 & 300mm*

*Indicates a second layer of TWRAP™ located at the base of the penetration.





Section B-B

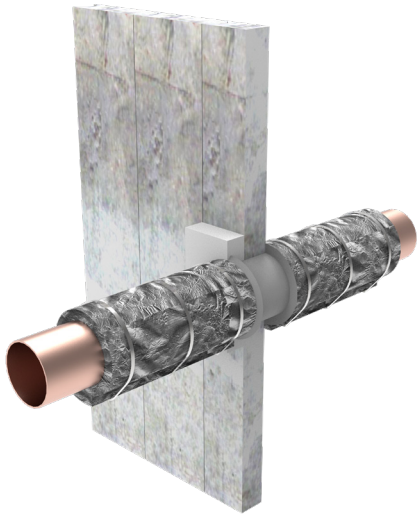
WALL PENETRATIONS

78mm SPEEDPANEL

FyreFLEX® sealant specifications		
Fillet size		15 x 15mm
Max Annular gap		10mm
Fill depth		Full depth

Pipe Type	Pipe Size	TWRAP™ length	
		FRL	-/120/120
Copper pipe	Up to DN50		300mm
	Up to DN100		600mm
	Up to DN 150		1100 & 300mm*
Steel pipe	Up to NB50		300mm
	Up to NB100		450mm
	Up to NB 150		900 & 300mm*

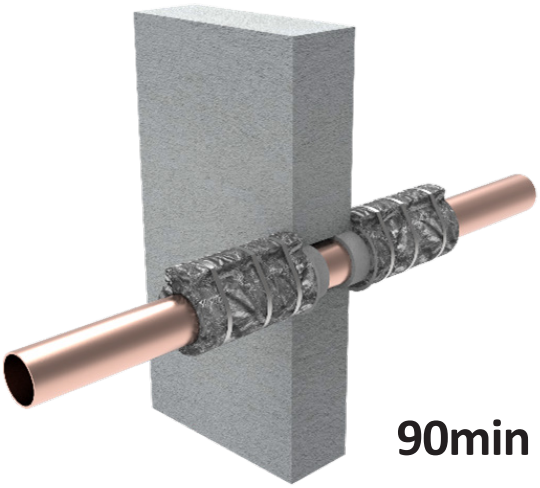
*Indicates a second layer of TWRAP™ located at the base of the penetrations.



Please note that Speedpanel must be thickened locally on one side of the wall with 60mm thick FyreBOARD Maxilite® 100mm around the penetration

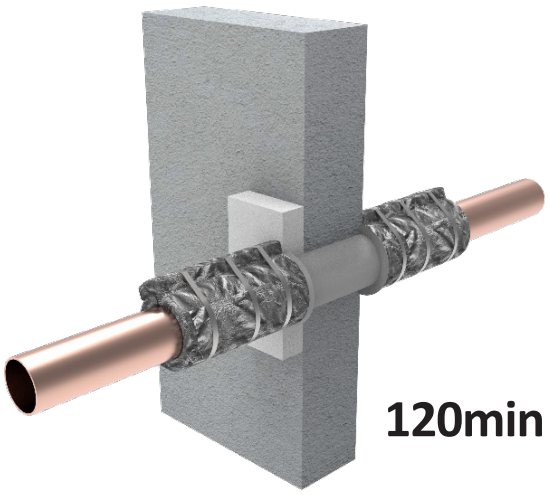
WALL PENETRATIONS

75mm HEBEL/WALSC AAC - 90 & 120min

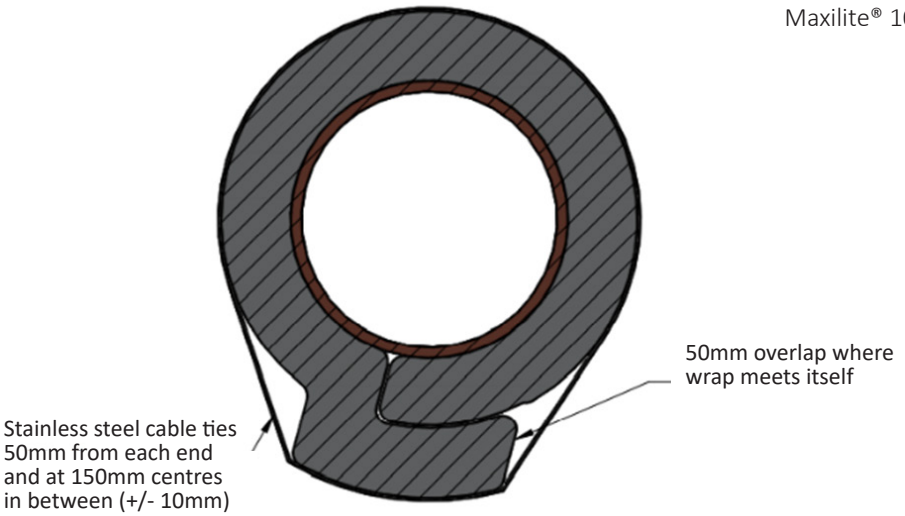


FyreFLEX® sealant specifications				
Fillet size		15 x 15mm		
Max Annular gap		10mm		
Fill depth		Full depth of AAC panel		
Pipe Type	**Pipe Size**	**TWRAP™ length**		
		FRL	-/90/90	-/120/120
Copper pipe	Up to DN50	300mm		300mm
	Up to DN100	600mm		600mm
	Up to DN 150	1050mm		1100 & 300mm*
Steel pipe	Up to NB50	300mm		300mm (no FyreBOARD Maxilite™ required)
	Up to NB100	450mm		450mm
	Up to NB 150	1050mm		900 & 300mm*

*Indicates a second layer of TWRAP™ located at the base of the penetrations.

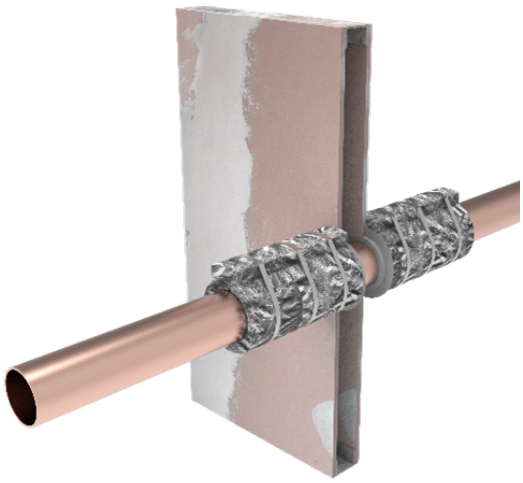


Please note that Hebel must be thickened locally on one side of the wall with 60mm thick FyreBOARD Maxilite® 100mm around the penetration.



WALL PENETRATIONS

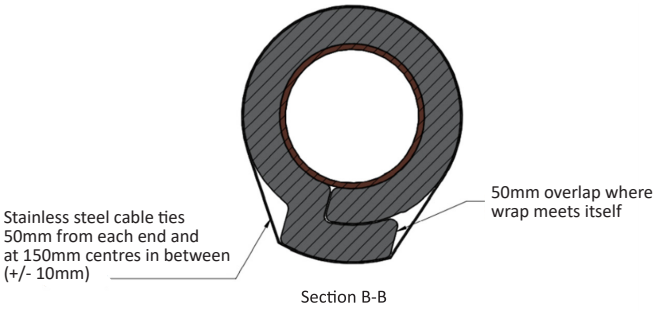
PLASTERBOARD WALLS



FyreFLEX® sealant specifications	
Fillet size	15 x 15mm
Max Annular gap	10mm
Fill depth	Full depth of plasterboard

Pipe Type	Pipe Size	TWRAP™ length			
		FRL	-/60/60	-/90/90	-/120/120
Copper pipe	Up to DN50	300mm		300mm	300mm
	Up to DN100	450mm		600mm	600mm
	Up to DN 150	-		-	1100 & 300mm*
Steel pipe	Up to NB50	300mm		300mm	300mm
	Up to NB100	450mm		450mm	450mm
	Up to NB 150	-		-	900 & 300mm*

*Indicates a second layer of TWRAP™ located at the base of the penetration.



Section B-B

APPROVED WALL SPECIFICATIONS

Sheeting		Stud work	FRL
Single Layer	1 x 13mm plasterboard each side of stud	Min 64mm	-/60/60
	1 x 16mm plasterboard each side of stud		-/90/90
Double Layer	2 x 13mm plasterboard each side of stud		-/120/120

INSTALLATION

PLASTERBOARD WALLS

STEP 1

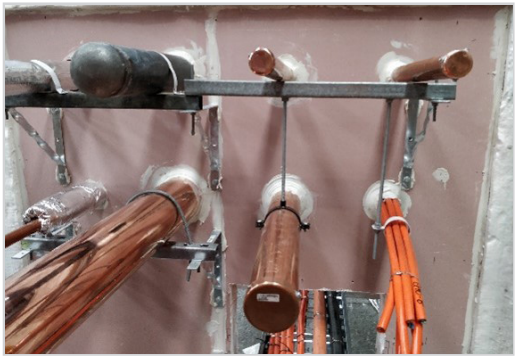
Form an opening appropriate for your service per the approvals table on page 12. Maintain 50mm between openings if multiple pipes are present.

STEP 2

Run services through the holes formed, ensure the pipes are nominally centered in the opening.

Foam backing rods (combustible or otherwise) can be used to ensure sealant is filled to the correct depth.

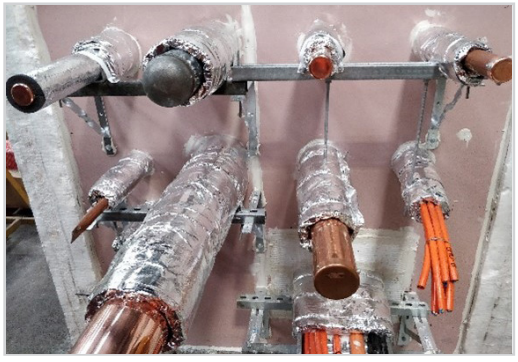
STEP 3



Apply FyreFLEX® Sealant to the full thickness of the plasterboard, ensuring the correct size of fillet (or cone).

Sealant needs to be applied to both sides of a wall penetration.

STEP 4



Wrap to the approved length (as per the tables on page 12) ensuring that where the wrap meets itself, there is a 50mm overlap. Close and cut edges of the wrap with aluminum foil tape and secure wrap to service with steel cable ties. See page 21-23 for technical drawings.

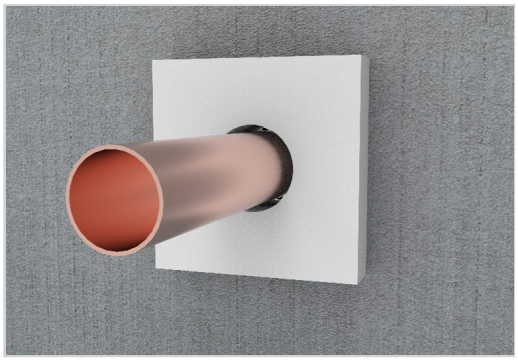
INSTALLATION

AAC/CONCRETE & MASONRY WALLS

STEP 1

Form an opening appropriate for your service per the approvals table on page 10. Maintain 50mm between openings if multiple pipes are present.

STEP 2



For 2 hour AAC walls only (i.e. Hebel, Walsc), one side of the wall is required to be locally thickened for 100mm around the penetration with our 60mm thick FyreBOARD Maxilite®. Fix FyreBOARD Maxilite™ with min 10g x 100mm steel screws in each corner. **This is not required for -/90/90.**

Foam backing rods (combustible or otherwise) can be used to ensure sealant is filled to the correct depth.

STEP 3

Apply FyreFLEX® Sealant to the depth specified in the approvals page 10, ensuring the correct size of fillet (or cone).

Sealant needs to be applied to both sides of a wall penetration.

STEP 4

Wrap to the approved length (as per the tables on page 10) ensuring that where the wrap meets itself, there is a 50mm overlap. Close and cut edges of the wrap with aluminum foil tape and secure wrap to service with steel cable ties. See pages 22-23 for technical drawings.

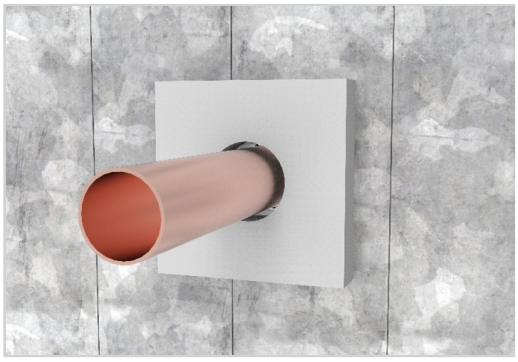
INSTALLATION

SPEEDPANEL WALLS

STEP 1

Form an opening appropriate for your service per the approvals table on page 10. Maintain 50mm between openings if multiple pipes are present.

STEP 2



For Speedpanel®, one side of the wall is required to be locally thickened for 100mm around the penetration with our 60mm thick FyreBOARD Maxilite®. Fix FyreBOARD Maxilite™ with min 10g x 100mm steel screws in each corner.

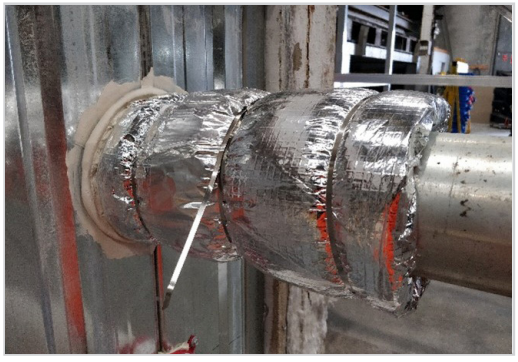
Foam backing rods (combustible or otherwise) can be used to ensure sealant is filled to the correct depth.

STEP 3

Apply FyreFLEX® Sealant to the depth specified in the approvals page 10, ensuring the correct size of fillet (or cone).

Sealant needs to be applied to both sides of a wall penetration.

STEP 4



Wrap to the approved length (as per the tables on page 10) ensuring that where the wrap meets itself, there is a 50mm overlap. Close and cut edges of the wrap with aluminum foil tape and secure wrap to service with steel cable ties. See pages 21-23 for technical drawings.

INSTALLATION

FLOORS

STEP 1

Form an opening appropriate for your service per the approvals table on page 9. Maintain 50mm between openings if multiple pipes are present. Remove and PVC formers.

STEP 2

Run the services through the holes formed, ensuring the pipes are nominally centered in the opening.

Foam backing rods (combustible or otherwise) can be used to ensure sealant is filled to the correct depth.

STEP 3

Apply FyreFLEX® sealant to the depth specified in the approvals on page 9, ensuring the correct size of fillet (or cone). Sealant needs to be applied to the top side of a floor penetration only.

STEP 4

Wrap to the approved length (as per the tables on page 9) ensuring that where the wrap meets itself, there is a 50mm overlap. Close and cut edges of the wrap with aluminium foil tape and secure wrap to the service with steel cable ties. See pages 21-23 for technical drawings.

SYSTEM RANGE

FyreFLEX

CLICKABLE CODES

Item Number	Description	Min Order Qty	Pallet QTY
FyreFLEX® 300W FyreFLEX® 300G	FyreFLEX® sealant Cartridge 300ml White or Grey	20	1440
FyreFLEX® 600W FyreFLEX® 600G	FyreFLEX® sealant Sausage 600ml White or Grey	18	810
FyreFLEX® 10W FyreFLEX® 10G	FyreFLEX® sealant Pail 10L White or Grey	1	110

TWRAP

CLICKABLE CODES

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 What if there is a pipe bracket at the base of the slab?

A Hydrant pipe brackets have been tested, installed before sealant/wrap is applied.

Q Do I need to wrap my services?

A For metal pipes TWRAP™ is required to achieve a full FRL (-/120/120 for instance). Refer to the approval's tables or the TWRAP™ quick lookup table in this manual.

Q Do I need to wrap my hydrant pipes?

A Water filled pipes do still need to be wrapped with TWRAP™. This is to protect against the worst case scenario where a pipe may be damaged and no longer be filled with water.

Q Can I use FyreFLEX® for my plastic pipes?

A No, Trafalgar Fire has different solutions for plastic pipes such as FyreCHOKE Collars and FyrePEX HP Sealant. Contact Trafalgar Fire at technical@tgroup.com.au for details.

Q Can I paint over the sealant?

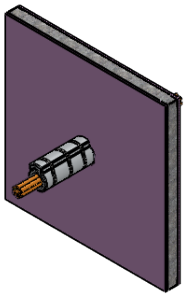
A Yes, the sealant can be painted over.

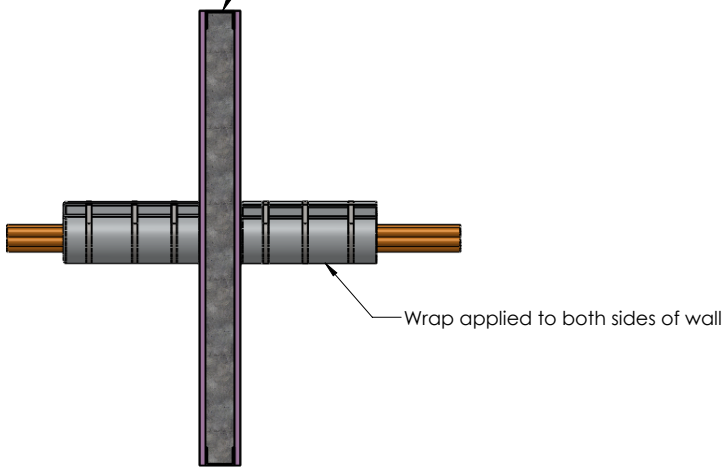
Q Is the FyreFLEX® Sealant suitable for external use?

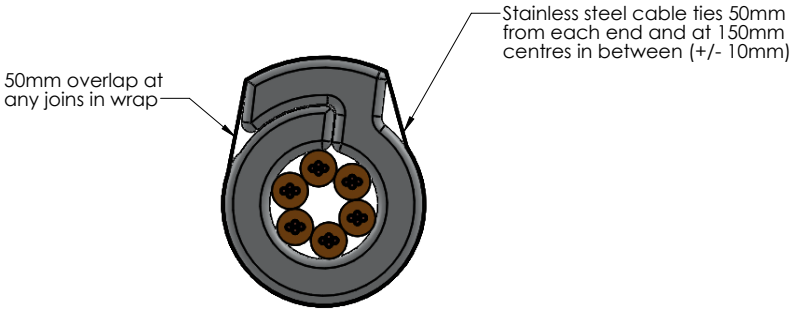
A FyreFLEX® sealant is not recommended for standing water applications, however it can be used in external applications, we simply recommend covering FyreFLEX® with another sealant that is externally.

SOCIAL MEDIA

LinkedIn YouTube







SECTION A-A

Drawing Name: Walls - Single TWrap Length

Project Title: TWrap FCO1579

Drawing No. :	Sheet:	Date:	Scale:
1	1 of 4	15/06/2021	NTS

Test Standard: AS1530.4

Fire resistance level:

Based on Report No.:

Codes:

Drawn By: SM

Checked By: JH

Revision:

Date:

No.:

NOTICE:

NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)

☐ **STANDARD DRAWING**
☐ **PROJECT DRAWING**

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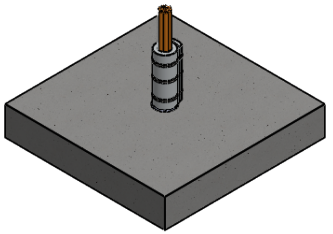

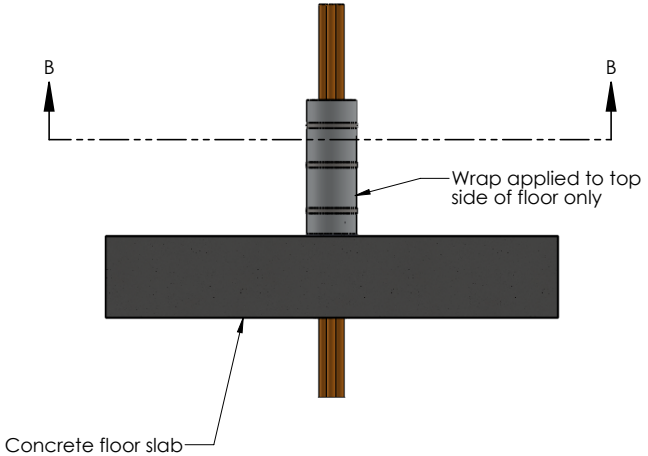

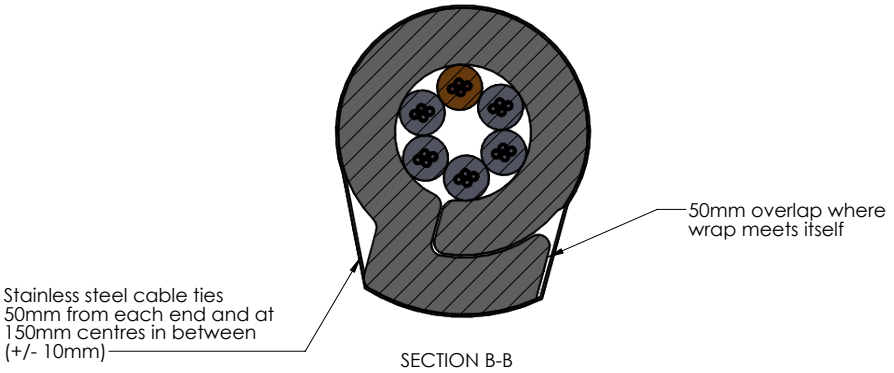

SECTION B-B

Drawing Name: Floors - Single TWrap Length			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:**
Project Title: TWrap FCO1579			**Fire resistance level:**	**Drawn By:** SM			NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Drawing No. : 2	**Sheet:** 2 of 4	**Date:** 15/06/2021	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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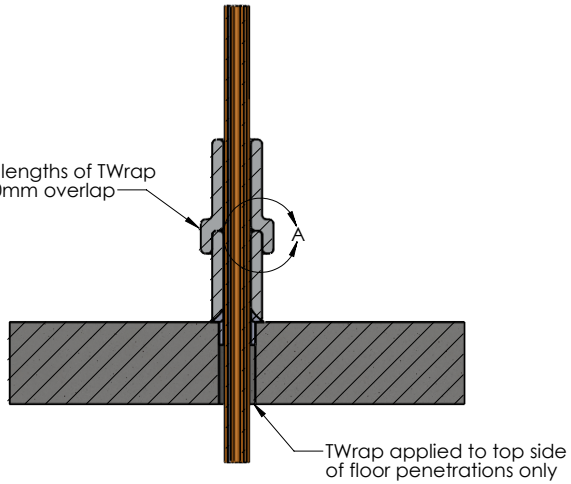
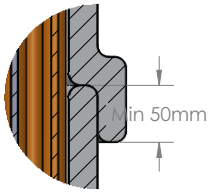
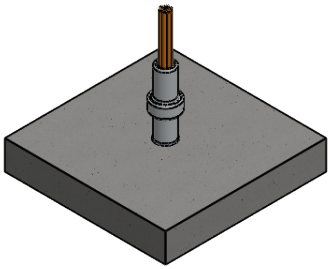
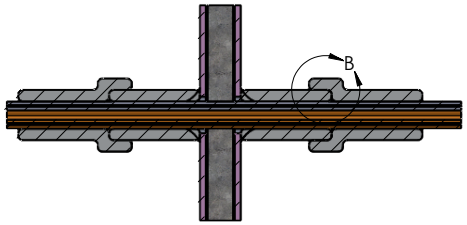
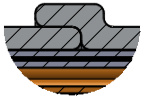




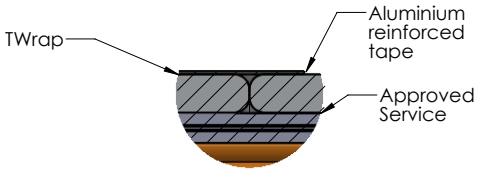
DETAIL A







DETAIL B



Note: Wrap can also be cut down both joining edges and taped together (top and bottom) to 'stitch' together two pieces. For this use 95mm aluminium reinforced tape.

Drawing Name: TWrap - Extended Length			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:**
Project Title: TWrap FCO1579			**Fire resistance level:**	**Drawn By:** SM			NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Drawing No.: 3	**Sheet:** 3 of 4	**Date:** 15/06/2021	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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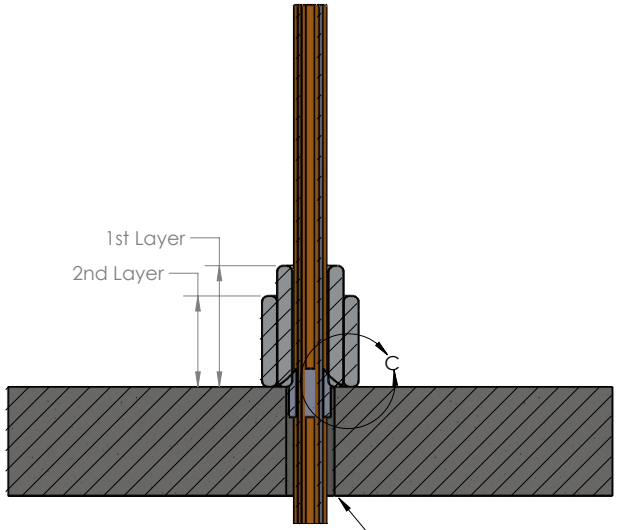
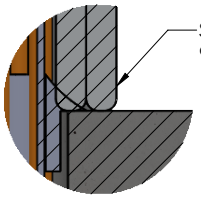
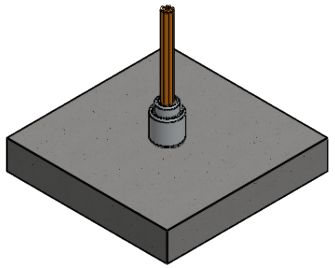
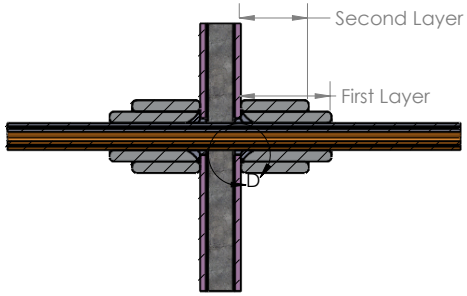
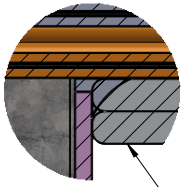




DETAIL C







DETAIL D

Drawing Name: Double Layers				**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:** / **No.:**
Project Title: TWrap FCO1579				**Fire resistance level:**	**Drawn By:** SM		
Drawing No.: 4	**Sheet:** 4 of 4	**Date:** 15/06/2021	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	

NOTICE:

NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)

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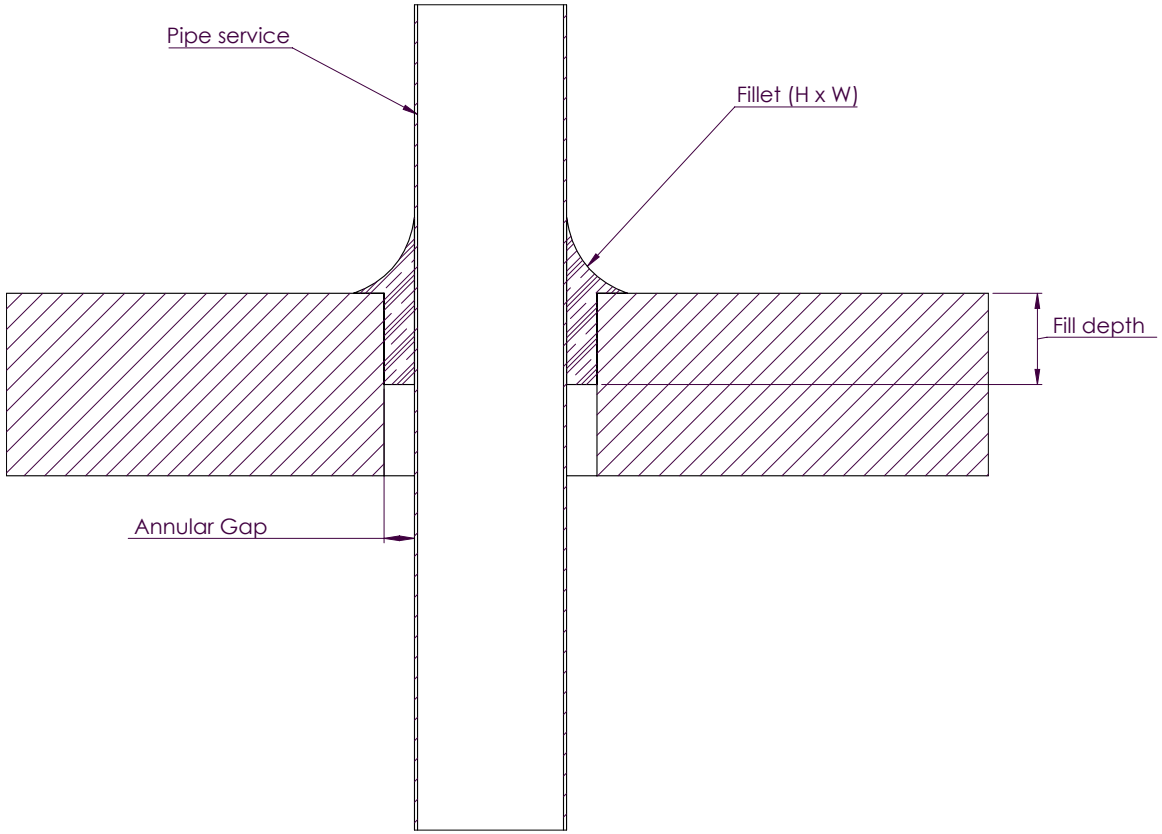

NOTE: Sealant drawing only (before wrap installation)

Drawing Name: Concrete floor - Metal pipe				**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:** / **No.:**
Project Title: FyreFLEX FCO1579				**Fire resistance level:**	**Drawn By:** RB		
Drawing No.: 1	**Sheet:**	**Date:** 10/06/2020	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	

NOTICE:

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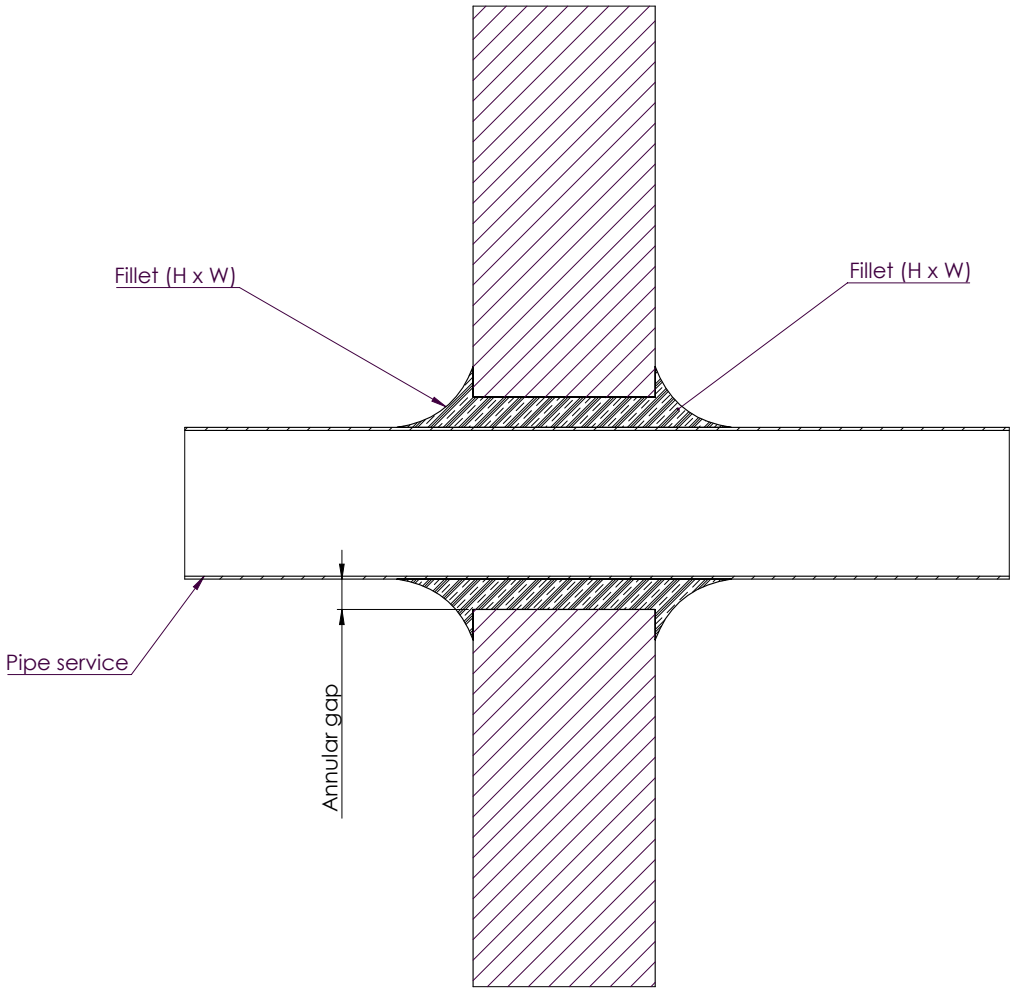

NOTE: Sealant drawing only (before wrap installation)

Drawing Name: Solid Wall - Metal pipe		**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:**
Project Title: FyreFLEX FCO1579		**Fire resistance level:**	**Drawn By:** RB			
Drawing No.: 4	**Sheet:**	**Date:** 10/06/2020	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING

NOTICE:

NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)

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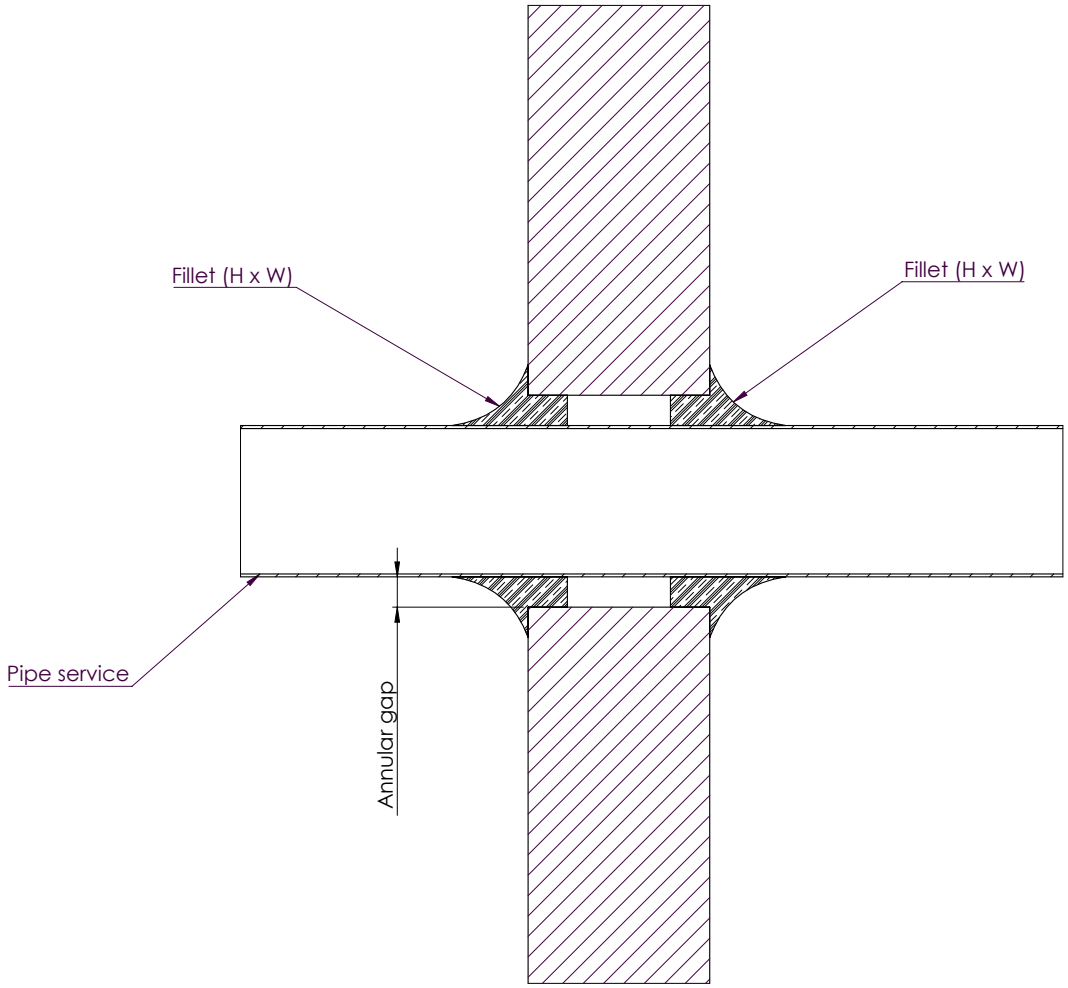

NOTE: Sealant drawing only (before wrap installation)

Drawing Name: Concrete/Masonry Wall - Metal pipe			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:**
Project Title: FyreFLEX FCO1579			**Fire resistance level:**	**Drawn By:** RB			
Drawing No.: 5	**Sheet:**	**Date:** 10/06/2020	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	

NOTICE:

NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)

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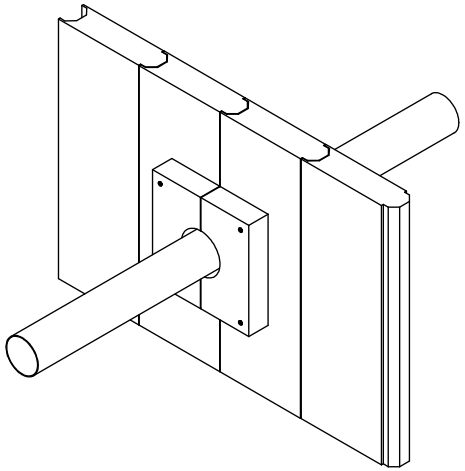

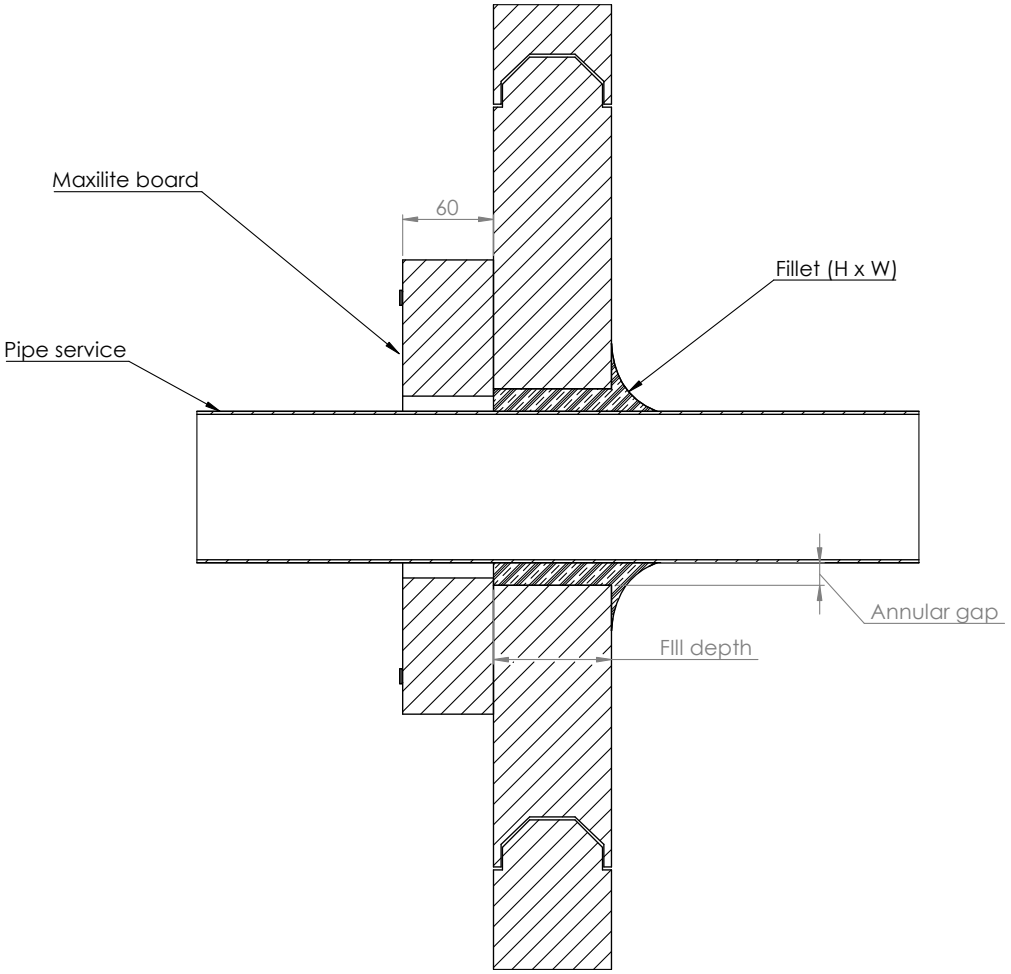

NOTE:
- Maxilite fixed with minimum 10gx100mm plasterboard screws
- Screw fixings 25mm from each corner, 4x total
- Maxilite may be cut into halves and retrofit around pipe

Drawing Name: Locally Thickened Wall			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:**
Project Title: FyreFLEX FCO1579			**Fire resistance level:**	**Drawn By:** RB			
Drawing No. : 9	**Sheet:**	**Date:** 11/06/2020	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	

NOTICE:

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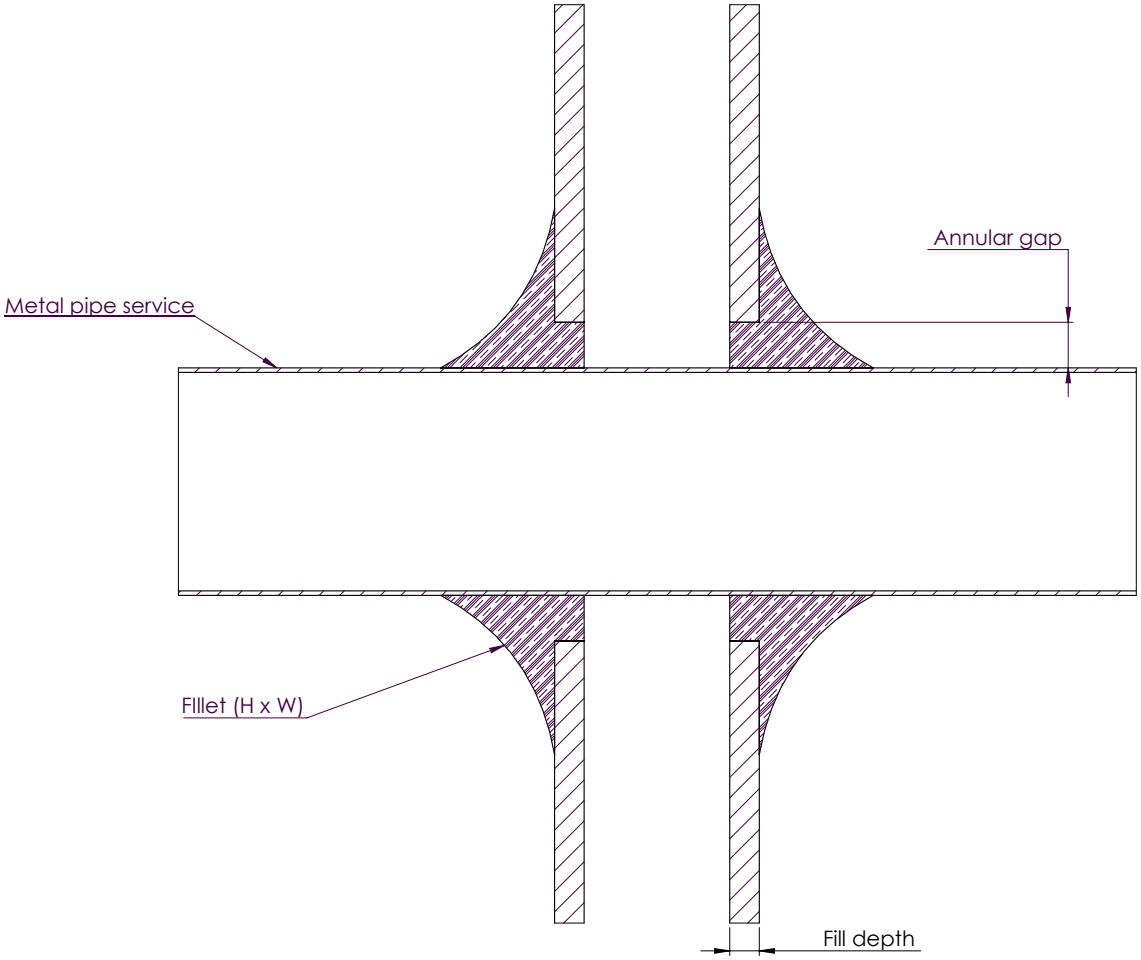
NOTE: Sealant drawing only (before wrap installation)



NOTE: Sealant drawing only (before wrap installation)

Drawing Name: Single Layer walls - Pipe		**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:**
Project Title: FyreFLEX FCO1579		**Fire resistance level:**	**Drawn By:** RB			
Drawing No.: 11	**Sheet:**	**Date:** 10/06/2020	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING

NOTICE:

NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)

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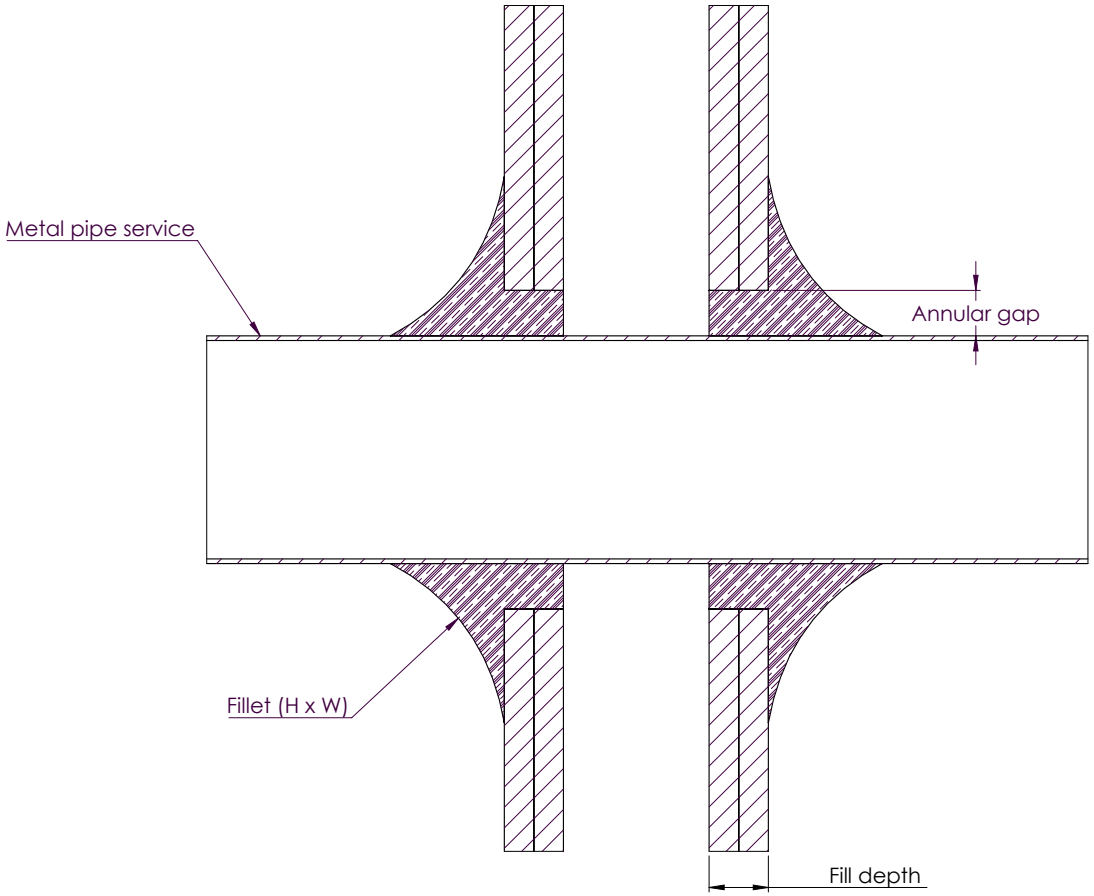

NOTE: Sealant drawing only (before wrap installation)

Drawing Name: Double layer plaster - pipes		**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:**
Project Title: FyreFLEX FCO1579		**Fire resistance level:**	**Drawn By:** RB			
Drawing No.: 13	**Sheet:**	**Date:** 10/06/2020	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING

NOTICE:

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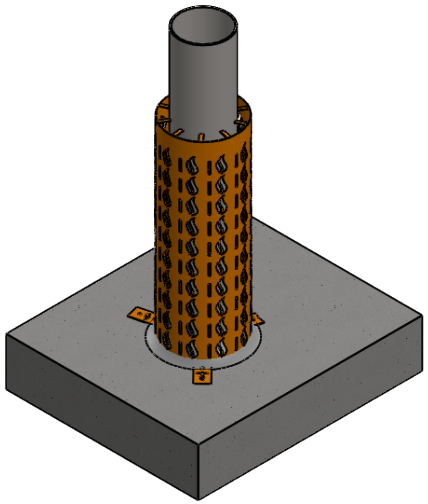

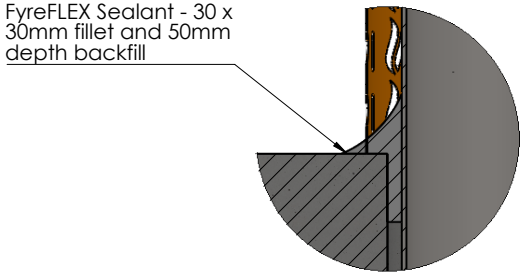

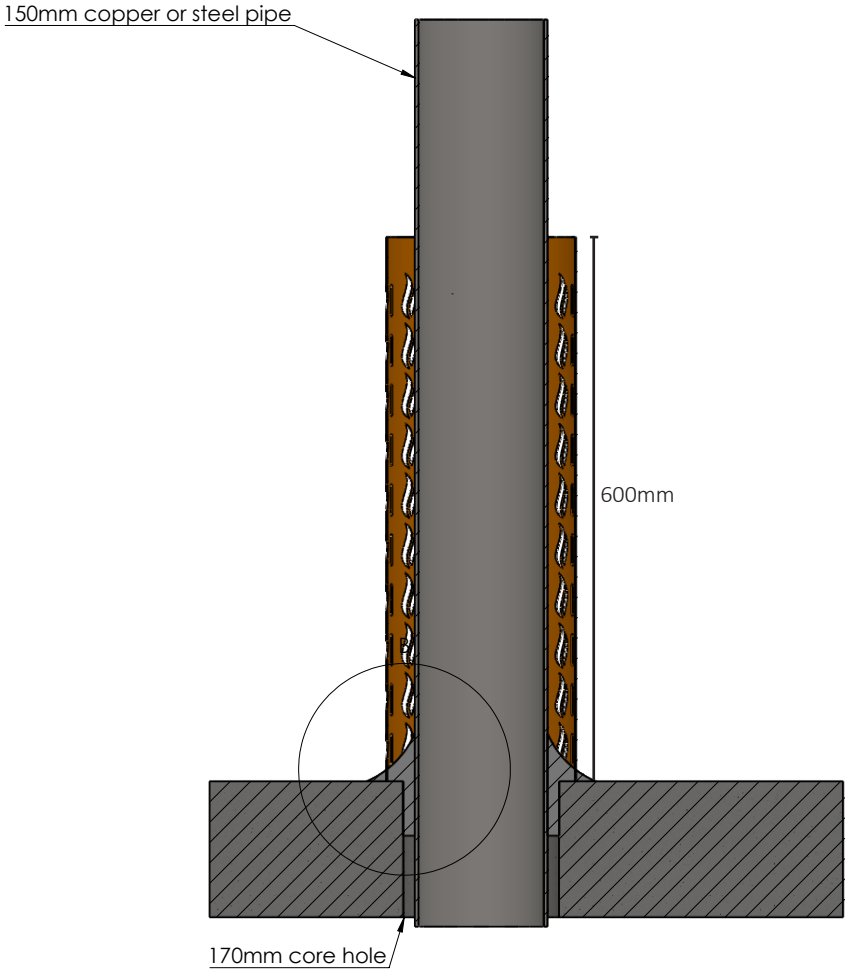

Note: Refer to the UniGUARD Technical Manual for more approvals, availavle on www.tfire.com.au

Drawing Name: UniGUARD Installation				**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:** / **No.:**	**NOTICE:**
Project Title: UniGUARD for Metal Pipes				**Fire resistance level:**	**Drawn By:** SM			NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Drawing No.: 1	**Sheet:** 1 of 1	**Date:** 30/06/2021	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE	Trafalgar Head Office: PO BOX 545 Chester Hill NSW 2162 T: 1800 888 714 F: 1800 201 500 E: technical@tgroup.com.au W: www.tfire.com.au

TWRAP™ QUICK REFERENCE

CONCRETE AND MASONRY WALLS & FLOOR SLABS

Pipe Type	Pipe Size (up to)	TWRAP™ Length		
		Concrete/ Masonry 2 hour walls	90min concrete floor	2 hour concrete floor
Copper	DN50	300mm	300mm	300mm (2hr)
	DN100	600mm	600mm	800 & 300mm* (3hr) or 600mm (2hr)
	DN150	1100 & 300mm*	850mm	850mm (2hr)
Steel	NB50	300mm	300mm	300mm (2hr)
	NB100	450mm	450mm	450mm (2hr or 3hr)
	NB150	900 & 300mm*	600mm	600mm (2hr) or 600 & 300mm* (-/240/180)

*Indicates as second layer of TWRAP™ located at the base of the penetration, on both sides of the wall.

OTHER WALL TYPES

Pipe Type	Pipe Size (up to)	TWRAP™ Length				
		1hr Plasterboard	2hr Plasterboard	90 min AAC Panel	2hr AAC Panel + 60mm FyreBOARD Maxilite® (120mm)	2hr Speedpanel® + 60mm FyreBOARD Maxilite® (120mm)
Copper	DN50	300mm				
	DN100	450mm	600mm			
	DN150	-	1100 & 300mm*	1050mm	1100 & 300mm*	
Steel	NB50	300mm				
	NB100	450mm				
	NB150	-	900 & 300mm*	1050mm	900 & 300mm*	

*Indicates a second layer of TWRAP™ located at the base of the penetration, on both sides of the wall.