TRAFALGAR FIRE

UNICORN
CONTINUOUS FIRE COLLAR

Trafalgar UniCORN
CONTINUOUS FIRE COLLAR

The Trafalgar UniCORN Continuous Fire Collar is a fire-rated collar system that is easy to stock, ship, install, & certify. Approved for a range of plumbing, electrical, active fire, and mixed services, without the need to hold a range of collar sizes on-hand for the different services. The Unicorn Continuous Fire Collar is supplied in a roll, and cut to length to suit the service.

NCC 2022 READY

KEY FEATURES

- Packaged as a 2310mm roll
- Cut to length to suit service
- Approvals for a range of services
- Fire test approvals to AS1530.4
- FRL's up to -/240/240
- Mounting brackets included in the box
- Range of services for concrete floor slabs
- Approved to protect cable bundles and insulated metal pipes

CONCRETE FLOORS

Plumbers	• PVC Pipe • HDPE • Lagged Copper • Pex
Electricians	• Conduits • Power Cables • Data & Communications Cabes
Passive Fire	• Mixed service bundles
HVAC&R	• pair coil bundles • refridgeration lines

TRADES

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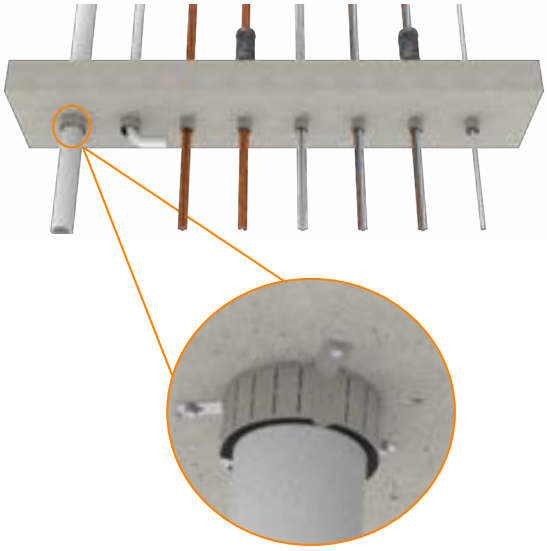
WHAT IS UNICORN?



Trafalgar Unicorn Continuous Fire Collar is designed to meet the ever-evolving needs of modern constructions. Engineered for excellence, this innovative solution offers unparalleled ease in stocking, shipping, installation, and certification, setting a new standard in passive fire protection. Packaged as a 2310mm roll and customizable to any service diameter, the Unicorn Continuous Fire Collar ensures a perfect fit for various applications without the need for multiple collar sizes, simplifying inventory management and reducing overhead costs. Rigorously tested to meet **AS1530.4:2014** standards and boasting **Fire Resistance Levels (FRL) up to -/240/240*,** it guarantees compliance with the strictest safety codes for slab installations. Equipped with all necessary installation components, it offers a straightforward, efficient installation process. This system is adaptable, easily accommodating standard and non-standard pipe configurations alike, highlighting our focus on versatile solutions that cater to the diverse needs of construction projects.

PRODUCT SPECIFICATIONS: WHAT'S IN THE BOX?

Whats in the box?	Quantity
UniCORN Continuous Collar	1
Brackets	20 per box
Optional Extras: Extra brackets and double brackets (for 150mm Plastic Pipes) available.	

Spec	Detail
Supply Length	2310mm
Height	50mm
Max FRL	-/240/240*

*Dependent on service

Item Number	Description	Min Order Qty
UniCORN	50mm x 2310mm	1

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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

(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.

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 Unicorn Continuous Fire Collar will achieve an integrity performance for up to 4 hours physically stopping the direct spread of fire, however the insulation performance will be limited to the type of barrier it is installed to and the conductivity of the services.

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 approved Unicorn Continuous Fire Collar services, our 25mm thick TWrap foil encased blanket can be wrapped around the services to achieve the full FRL of up to 4 hours. Some services achieve 4 hours of insulation without the need for any TWrap. Refer to the tables below for specific details.

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CABLES AND CONDUITS ELECTRICAL AND DATA

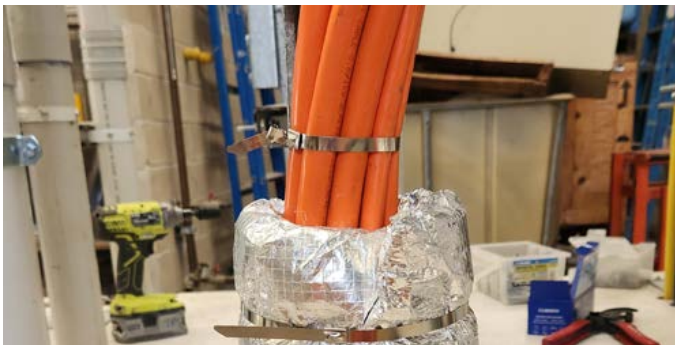
UniCORN Continous Fire Collar has been fire tested and approved for the following services:

SERVICES

- 25mm conduit
- 6mm^2 power cables
- CAT6 cables
- 16mm^2 Power Cables
- CAT3 cables

BARRIER TYPE

Floors	• Concrete



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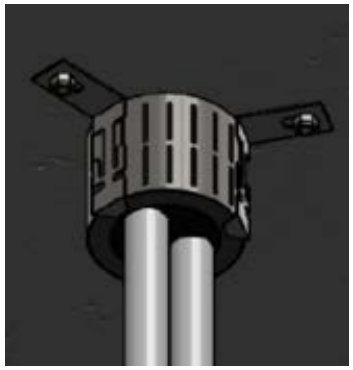
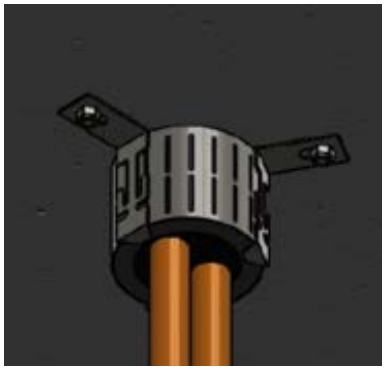
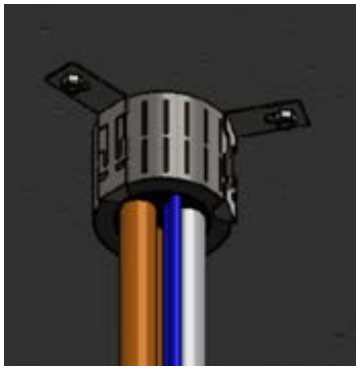
FRL TABLES:

CABLES AND CONDUITS - ELECTRICAL AND DATA

Services	Can mix and match?	How many tabs?	Concrete floors		Test Report
			Min. 150mm	TWrap top side	
Power cables up to 6mm^2	Up to 11x	Core holes up to 50mm = 2x tabs	-/120/120	450mm	FCO3527 Table 6
Power cables up to 16mm^2	Up to 8x		-/240/240	450mm	
CAT6 data cables	Up to 30x		-/120/120	450mm	
Telecom cables	Up to 30x		-/120/120	450mm	
TPS cables 2.5mm^2	Up to 1x	Core holes up to 100mm = 3x tabs	-/240/120	**Wrap Free!**	
Fire cables 2.5mm^2	Up to 1x		-/240/120	**Wrap Free!**	







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INSTALLATION

1. SEAL ANNULAR GAP

Seal the annular gap around the service with FyrePEX HP Intumescent Sealant to a 60mm depth.

2. CUT COLLAR TO LENGTH

Measure and cut the collar to a length to suit the services/hole size, ensuring the to remain within the scope of approvals.

3. INSTALL COLLAR

Wrap the collar around the services, and secure the ends to each other using 1x mounting bracket.

4. SECURE FIXINGS

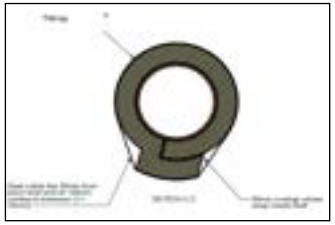
Install the remaining mounting brackets (as many as required for the application), and secure into the separating using the fixing type specified in Table 1.

5. FINISH WITH SEALANT

Finish the installation by backfilling the gap from the service to the collar with FyrePEX HP Intumescent sealant.

6A. TWRAP (IF APPLICABLE)

Wrap the TWrap around the service overlapping 50mm where it meets itself.



6B. TWRAP (IF APPLICABLE)

Secure TWrap with steel cable ties, 50mm from each end and at 150mm centres between. (TWrap can also be additionally secured with steel reinforced tape).

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PLASTIC PIPES

UniCORN Continous Fire Collar has been fire tested and approved for the following services:

SERVICES

- PVC Stack Pipe
- HDPE Stack Pipe
- PVC Pressure Pipe
- Pex

BARRIER TYPE

Floors	• Concrete

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FRL TABLE - PLASTIC PIPES

Plastic Pipe Services	Can mix and match?	How many tabs?	Concrete Floors		Test Report
			Min. 150mm	Min. 175mm	
PVC-40	No, single pipe only	2x	-/180/180	-/240/240	FSP2425 #7
PVC-40 with elbow	No, single pipe only	2x	-/180/180	-/240/240	FSP2419 #2
PVC-50	No, single pipe only	2x	-/180/180	-/240/240	FSP2317 #1
PVC-50 with elbow	No, single pipe only	2x	-/120/120	-/120/120	FCO3527 Table 2
PVC-65	No, single pipe only	3x	-/180/180	-/240/240	FSP2425 #6
PVC-80	No, single pipe only	3x	-/180/180	-/240/240	FSP2425 #5
PVC-100	No, single pipe only	3x	-/180/180	-/240/240	FSP2317 #1
PVC-100 with elbow	No, single pipe only	3x	-/120/120	-/120/120	FCO3527 Table 2
PVC-100 (2x pipes)	2x pipes wrapped with 1x collar	6x	-/90/90	-/90/90	FSP2425 #3
PVC-150 (Double collar)	No, single pipe only	3x	-/180/180	-/240/240	FSP2425 #4
HDPE-40	No, single pipe only	2x	-/180/180	-/240/240	FSP2425 #1
HDPE-50	No, single pipe only	2x	-/180/180	-/240/240	Contact Trafalgar
HDPE-56	No, single pipe only	3x	-/180/180	-/240/240	Contact Trafalgar
HDPE-80	No, single pipe only	3x	-/180/180	-/240/240	Contact Trafalgar
HDPE-100	No, single pipe only	3x	-/180/180	-/240/240	Contact Trafalgar
PEX-a 25mm	Yes (1x max)	2x	-/180/180	-/240/240	FSP2425 #8
PEX-b 25mm	Yes (1x max)	2x	-/180/180	-/240/240	FSP2425 #8
PEX-AL-PEX 25mm	Yes (1x max)	2x	-/180/180	-/240/240	FSP2425 #8
PVC-Pressure-40	No, single pipe only	2x	-/180/180	-/240/240	FSP2419 #9
PVC-Pressure-100	No, single pipe only	3x	-/180/180	-/240/240	FSP2419 #10

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INSTALLATION

1. SEAL ANNULAR GAP

Seal the annular gap around the service with FyrePEX HP Intumescent Sealant to a nominal 10mm depth.

2. CUT COLLAR TO LENGTH

Measure and cut the collar to a length to suit the services/hole size, ensuring the to remain within the scope of approvals.

3. INSTALL COLLAR

Wrap the collar around the services, and secure the ends to each other using 1x mounting bracket.

4. SECURE FIXINGS

Install the remaining mounting brackets (as many as required for the application), and secure into the separating using the fixing type specified in Table 1.

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METAL AND LAGGED PIPES

UniCORN Continous Fire Collar has been fire tested and approved for the following services:

SERVICES

- Pair coil 1x, 2x, 3x
- Hard drawn Copper DN50
- DN25
- NB100

BARRIER TYPE

Floors	• Concrete

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FRL TABLES:

METAL AND LAGGED PIPES

Services	Core Hole Size	Can mix and match?	How many tabs?	Concrete floors		Test Reports
				Min. 150mm	TWrap top side	
Hard drawn Copper DN50 + 25mm FR lagging	100mm	No, single pipe only	3x	-/180/-	N/a	FSP2419 #3
DN25 copper pipe (bare)	45mm	Yes (max 1x pipe)	3x	-/240/120	300mm top side*	FSP2419 #8
1xPair coil (3/4 & 3/8") FR lagged with cables*	80mm	Max of 3x	3x	-/240/240	Wrap Free!	FSP2419 #5
2xPair coil (3/4 & 3/8") FR lagged with cables*	100mm		3x	-/120/120	Wrap Free!	FSP2419 #1
3xPair coil (3/4 & 3/8") FR lagged with cables*	120mm		3x	-/120/120	Wrap Free!	FSP2419 #1

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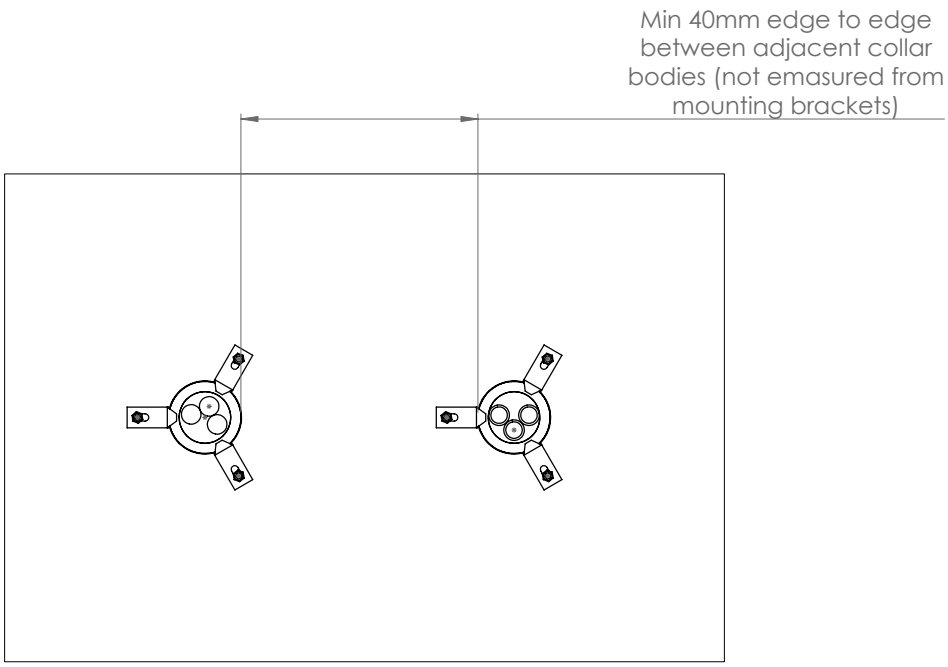
TABLE - 1
APPROVED FIXINGS

Element	Collar Fixing Type	
Min. 120mm Concrete slab or Min.110mm masonry / concrete wall	Min. M6 x 50mm Dynabolt	
	Min. M6 x 50mm Steel knock in anchor	
96mm Shaftliner Wall	Min. 10G c 38mm Coarse Thread Laminated Screw with washer	

Collar Spacing

Collars to be located with a minimum of 40mm separation from collar to collar, not counting the brackets.



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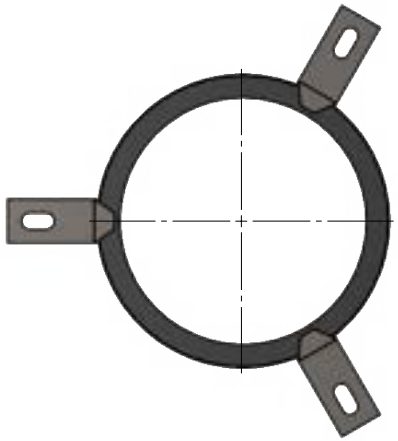

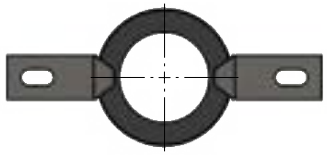

Note
- Unicorn Collar is supplied in a long strip, and cut to length to suit service (to the nearest segment.

- Mounting Brackets equally spaced

- Collars 50mm nominal and under require 2 x brackets

- Collars over over 50mm nominal require 3 x brackets

- 1st bracket installed to link the cut ends of the collar together

Drawing Name: Overview			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:**
Project Title: Unicorn Collar Drawings			**Fire resistance level:**	**Drawn By:** DP			
Drawing No. : 1	**Sheet:** 1 of 11	**Date:** 1/30/2024	**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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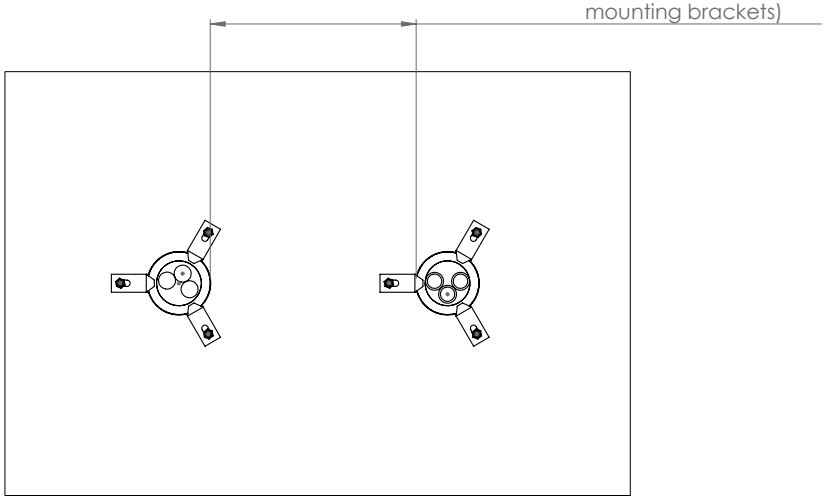

Drawing Name: Collar Separation			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:** NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Project Title: Unicorn Collar Drawings			**Fire resistance level:**	**Drawn By:** SM			
Drawing No. : 2	**Sheet:** 2 of 11	**Date:** 1/30/2024	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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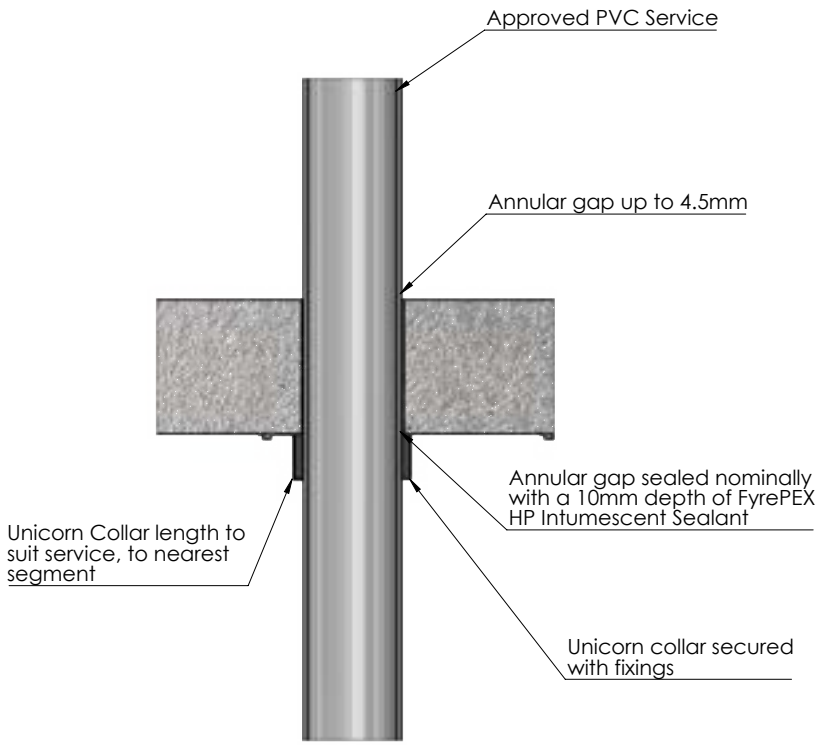
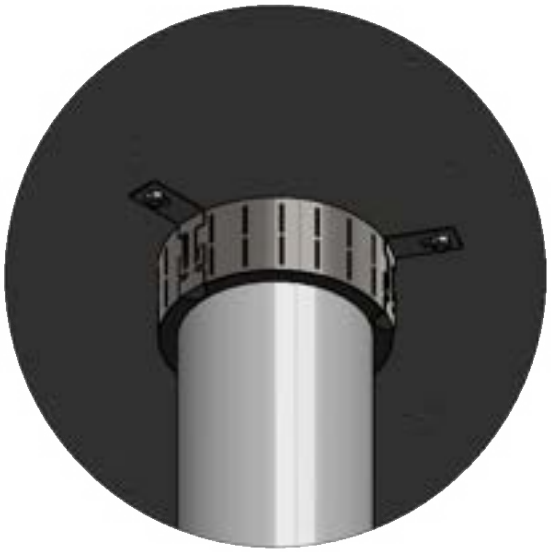


SECTION A-A



Drawing Name: PVC Service - Floor				**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:** NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Project Title: Unicorn Collar Drawings				**Fire resistance level:**	**Drawn By:** SM			
Drawing No. : 3	**Sheet:** 3 of 11	**Date:** 1/30/2024	**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

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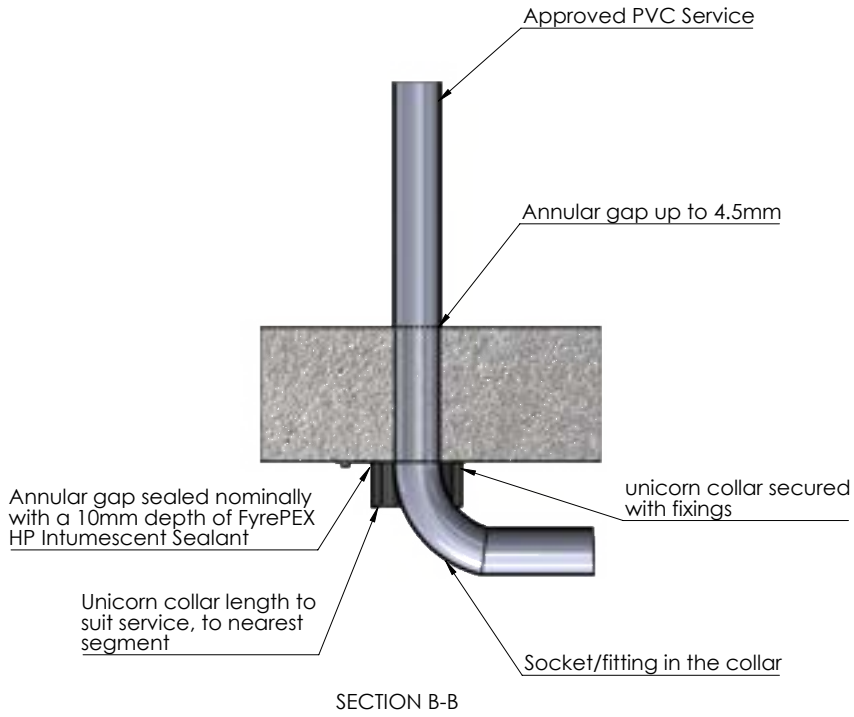
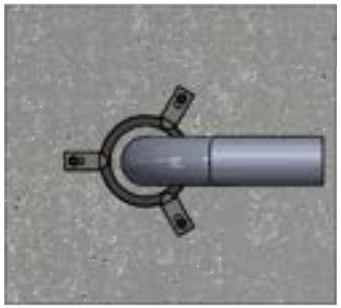


SECTION B-B



Drawing Name: PVC Service - Socket - Floor			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:** NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Project Title: Unicorn Collar Drawings			**Fire resistance level:**	**Drawn By:** SM			
Drawing No. : 4	**Sheet:** 4 of 11	**Date:** 1/30/2024	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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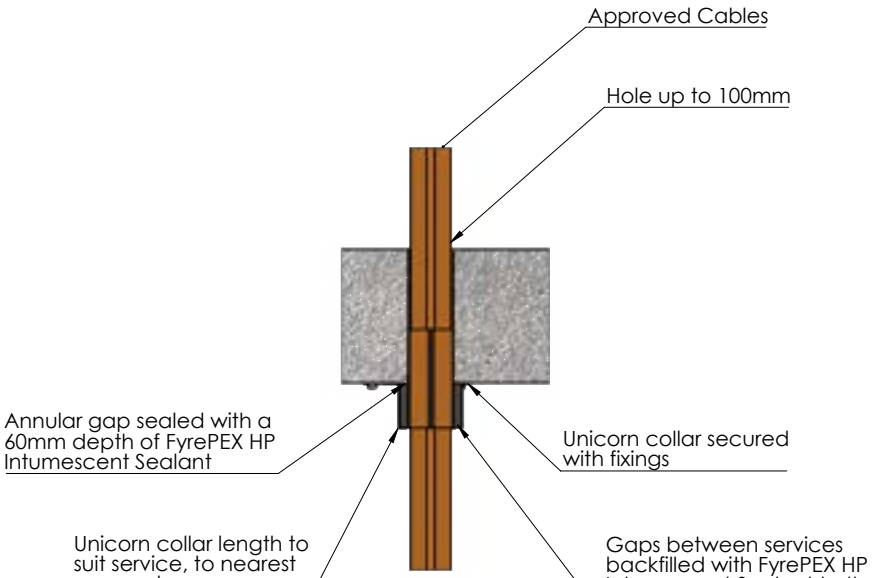

SECTION C-C

Drawing Name: Cable Services - Floor				**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:**
Project Title: Unicorn Collar Drawings				**Fire resistance level:**	**Drawn By:** SM			NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Drawing No. : 5	**Sheet:** 5 of 11	**Date:** 1/30/2024	**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

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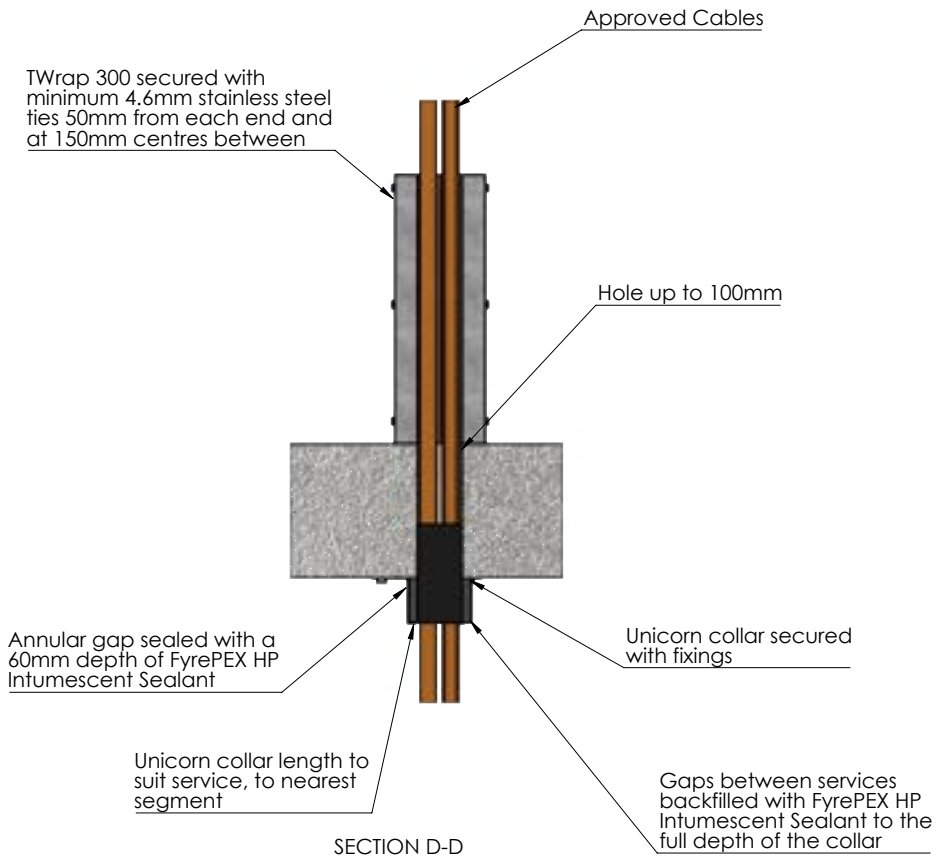

SECTION D-D

Drawing Name: Cable Services - TWrap - Floor			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:**	**No.:** **NOTICE:**
Project Title: Unicorn Collar Drawings			**Fire resistance level:**	**Drawn By:** SM			NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Drawing No. : 6	**Sheet:** 6 of 11	**Date:** 1/30/2024	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ **STANDARD DRAWING** ☐ **PROJECT DRAWING**	TRAFALGAR FIRE

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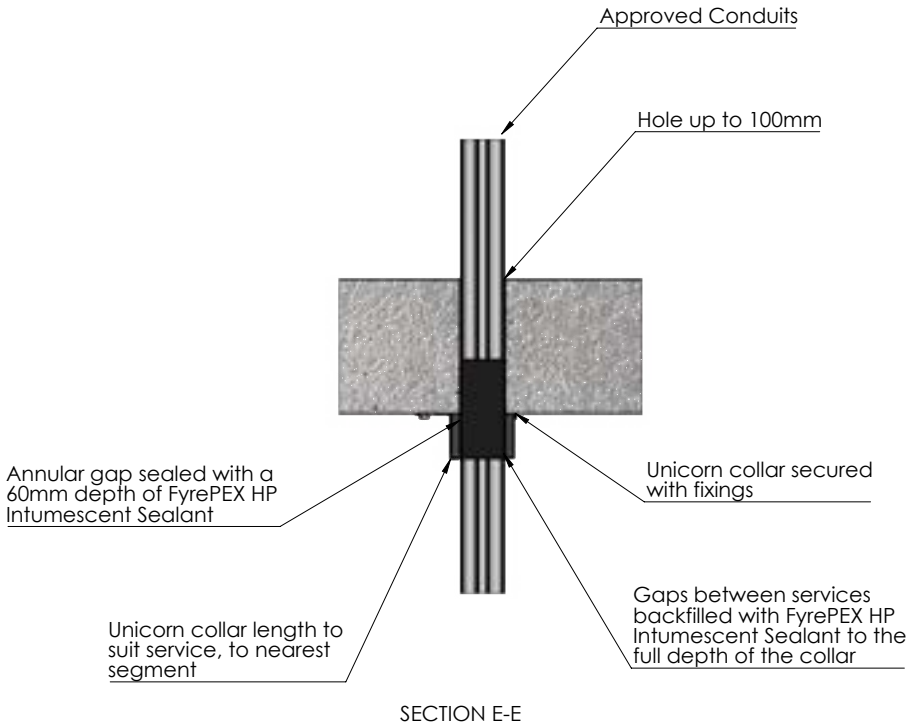

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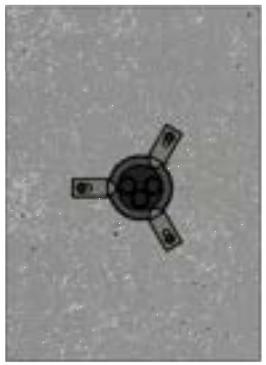

Drawing Name: Conduit Services - Floor			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:** / **No.:**	**NOTICE:** NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Project Title: Unicorn Collar Drawings			**Fire resistance level:**	**Drawn By:** SM			
Drawing No. : 7	**Sheet:** 7 of 11	**Date:** 1/30/2024	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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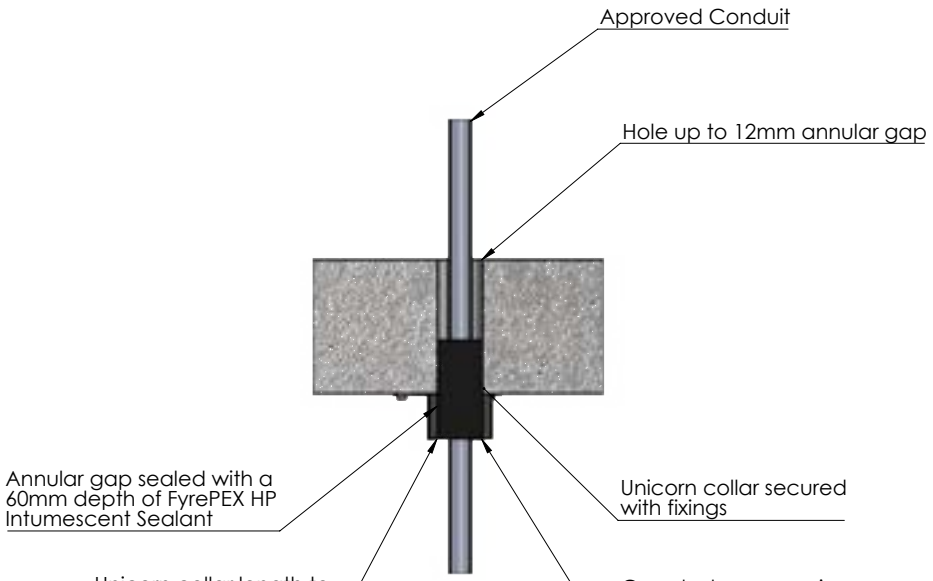

SECTION K-K

Drawing Name: Single Conduit Service - Floor

Project Title: Unicorn Collar Drawings

Drawing No. :	Sheet:	Date:	Scale:
8	8 of 11	1/30/2024	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)

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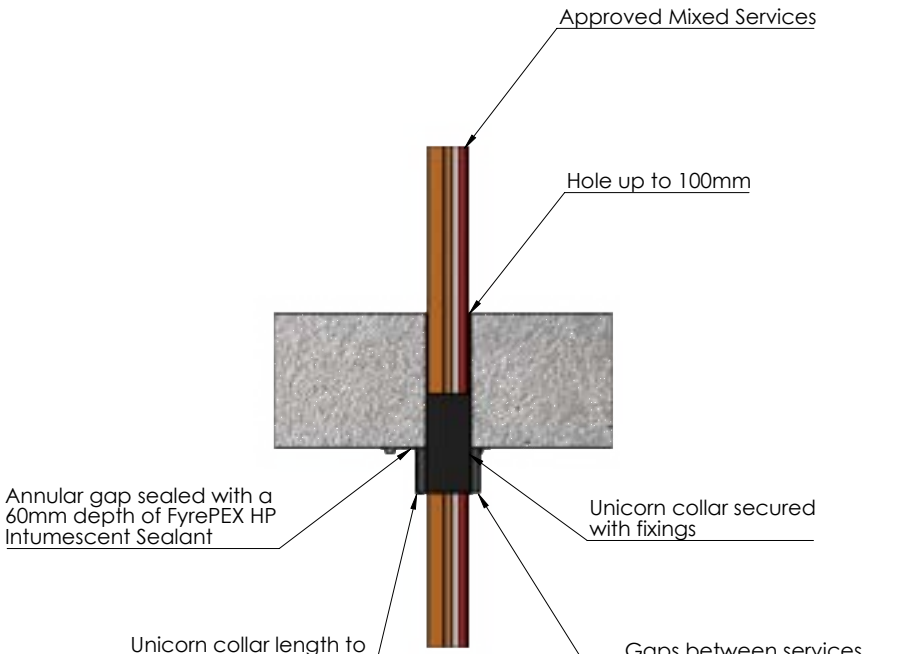

SECTION F-F

Drawing Name: Mixed Services - Floor			**Test Standard:** AS1530.4	**Codes:**	**Revision:**	**Date:** / **No.:**	**NOTICE:** NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Project Title: Unicorn Collar Drawings			**Fire resistance level:**	**Drawn By:** SM			
Drawing No. : 9	**Sheet:** 9 of 11	**Date:** 1/30/2024	**Scale:** NTS	**Based on Report No.:**	**Checked By:** JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING	TRAFALGAR FIRE

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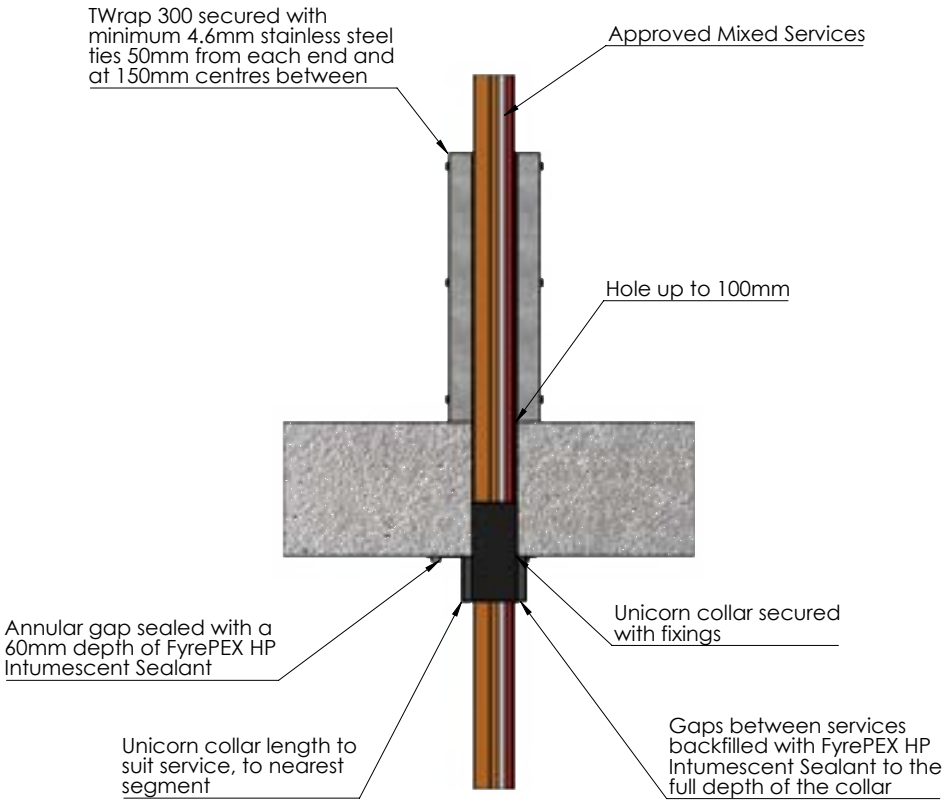

SECTION G-G

Drawing Name: Mixed Services - TWrap - Floor

Project Title: Unicorn Collar Drawings

Drawing No. :	Sheet:	Date:	Scale:
10	10 of 11	1/30/2024	NTS

Test Standard:	Codes:	Revision:	Date:	No.:	NOTICE:
AS1530.4					NOTE: ALL DIMENSIONS ARE IN MILLIMETRES (mm)
Fire resistance level:	Drawn By: SM				
Based on Report No.:	Checked By: JH	☐ STANDARD DRAWING ☐ PROJECT DRAWING			

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