

TEST REPORT

PF25014

Fire resistance test for penetration through a vertical separating element

Client:	BOSS Products (Australia) Pty Ltd
Test method:	AS1530.4-2014
Report Date:	17/04/2025
Test number:	PF25014

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1.1 Document revision schedule

Revision #	Date	Description
1	15/04/2025	Initial issue for Client review
2	17/04/2025	Issued to Client

1.2 Signatories

Report	Name	Signature	Date
Prepared by:	Alexey Kokorin		17/04/2025
Authorised by:	Andrew Bain (Authorized signatory)		17/04/2025



All tests reported herein
have been performed in
accordance with the
laboratory's scope of
accreditation

2. Report Summary

Service penetration was tested passing through a 92mm steel frame insulated wall lined with one layer of 13mm fire rated plasterboard on each side.

Specimen #	Service	Actual Integrity (min)	Actual Insulation (min)	FRL *
1	25mm cPVC Pipe	95NF	90	-/60/60
2	50mm Copper Pipe	95NF	11	-/60/0
3	15mm Copper Pipe with 13mm thick nitrile insulation	95NF	88	-/60/60
4	50mm cPVC Pipe	88	88	-/60/60
5	15mm Copper Pipe with 19mm thick nitrile insulation	95NF	95NF	-/60/60
6	32mm Copper Pipe with 19mm thick nitrile insulation	95NF	77	-/60/60
7	15mm Copper Pipe with 32mm thick nitrile insulation	95NF	95NF	-/60/60
8	32mm Copper Pipe with 32mm thick nitrile insulation	95NF	90	-/60/60
9	15mm Copper Pipe with 25mm thick nitrile insulation	95NF	95NF	-/60/60

NF – No Failure

* - FRL was reduced to the published performance of the wall.

3. General Information

3.1 Testing Scope

Applicable Standards:

AS 1530.4-2014 Section 10: Service penetrations and control joints

AS 4072.1-2005 (r. 2016) Components for the protection of openings in fire-resistant separating elements. Part 1: Service penetrations and control joints

Departures from Testing Method:

No departures from the testing method

Performance Criteria:

Failure shall be deemed to have occurred when one of the following occurs:

- a) The temperature at any location on the unexposed face of the test specimen exceeds the initial temperature by more than 180°C
- b) Integrity failure shall be deemed to have occurred upon ignition of the cotton pad when glowing or flaming occurs for a period of 30 seconds.
- c) Flaming to the unexposed face for 10 seconds or longer shall be deemed to be an Integrity failure.

Documentation:

Testing products were checked and tested based on the Client description, refer to the Specimens description below. Documents provided by the Client:

- Test 4 – Aperture Location Fire Side – Horizontal.pdf
- Test 4 – Aperture Location Fire Side – Vertical.pdf
- Test 4 – Aperture Size Fire Side.pdf
- Test 4 – Elevation – Fire Side.pdf
- Test 4 – Elevation – Framing Fire Side.pdf
- Test 4 – Elevation – Non Fire Side.pdf
- Test 4 – Section A.pdf
- Test 4 – Specimen Sections V3.pdf

3.2 Contact Details

Accredited Testing Laboratory

FTSL - Passive Fire Inspection and Test Services Ltd

Accreditation Number - 1335

1/113 Pavilion Drive, Mangere, Auckland, 2022

New Zealand

Contact e-mail: tests@firelab.co.nz

Client/Applicant:

BOSS Products (Australia) Pty Ltd

Unit 1, 16 Atkinson Road, Tarren Point 2229, New South Wales

Australia

Contact e-mail: mark.prior@bossfire.com.au

Supplier/Manufacturer:

Same as Client/Applicant

3.3 Specimen Preparation, Conditioning and Timeline

Specimens conditioning and delivery to Laboratory:

Separating element was built by the Laboratory in line with Client instructions. Installation of fire stopping system was performed by the Client. The Laboratory was not involved in sampling of the materials. The Laboratory checked materials during construction of the specimen. Services were capped on the fire side.

Testing date:

09/04/2025

Installation completion date:

13/03/2025

Termination of The Test:

The test was discontinued at 95 minutes.

3.4 Use of the Report

This report shall not be reproduced, except in full.

This report details the methods of construction, test conditions and the results obtained when the specific element of construction described herein was tested following the procedure outlined in AS 1530.4. Any significant variation with respect to size, constructional details, loads, stresses, edge or end conditions, other than that allowed under the field of direct application in the relevant test method, is not covered by this report.

Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result.

The test results relate to the specimens of the product in the form in which they were tested. Differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product, which is supplied or used, is fully represented by the specimens, which were tested.

The specimens were supplied by the sponsor and the Laboratory was not involved in any of selection or sampling procedures.

The results of these fire tests may be used to directly assess fire hazard, but it should be recognized that a single test method will not provide a full assessment of fire hazard under all fire conditions.

4. Specimen Description

4.1 Supporting Construction

Separating element		
1.1	Item	92mm (nominal) steel stud insulated frame with one layer of 13mm FR Plasterboard fitted to each side of the separating element
	Dimensions	Width x Height: 1200mm x 1200mm

Materials		
1.2	Item	Ramset AnkaScrew AS06075WGM
	Dimensions	6mm x 75mm
	Installation	Fixing top and bottom plates to refractory frame
1.3	Item	Steel Stud 0.50bmt
	Dimensions	Width x Height: 92mm x 1200mm
	Installation	Used to construct studs and nogs in steel frame
1.4	Item	Steel Deflection Head 0.75bmt
	Dimensions	Width x Height: 92mm x 1200mm
	Installation	Used to construct top plate
1.4	Item	Steel Track 0.50bmt
	Dimensions	Width x Height: 92mm x 1200mm
	Installation	Used to construct bottom plate
1.5	Item	Self-Tapping Screw
	Dimensions	10g x 16mm
	Installation	Used to construct steel stud frame
1.6	Item	GIB Fyreline
	Dimensions	Width x Height: 1200mm x 1200mm
		Thickness: 13mm
	Installation	1 layer applied to each face of separating element
1.7	Item	GIB Grabber Self Tapping Screw
	Dimensions	41mm
	Installation	Used to secure GIB Fyreline to frame

1.8	Item	GIB Plus 4 Plaster
	Dimensions	15L Pail
	Installation	Used to cover screw heads on plasterboard
1.9	Item / Product Name	Boss FireMastic-300
	Dimensions	600mL sausage
	Installation	Used to seal between separating element and refractory frame
1.10	Item	Boss Batt
	Dimensions	Width x Height: 600mm x 1200mm
	Installation	Cut to fit flush in studs and nogs between fire cells
1.11	Item	Earthwool insulation – glass wool insulation
	Dimensions	R2.2 90mm thick
	Installation	Insulation in separating element

4.2 Specimens

Services		
2.1	Item	Spears Flameguard SDR-13.5 25mm cPVC Pipe
	Dimensions	Diameter (OD): 33.8mm
		Diameter (ID): 25.0mm
		Wall Thickness (T): 2.9mm
2.2	Item	Kembla NZS3501 2 50x1.22 B 50mm Copper Pipe
	Dimensions	Diameter (OD): 53.2mm
		Diameter (ID): 49.4mm
		Wall Thickness (T): 1.9mm
2.3	Item	15mm Copper Pipe
	Dimensions	Diameter (OD): 15.1mm
		Diameter (ID): 11.5mm
		Wall Thickness (T): 1.8mm
2.4	Item	K Flex Fire-retardant nitrile insulation 15x13
	Dimensions	Diameter (OD): 41.0mm
		Diameter (ID): 15.0mm

		Insulation Thickness (T): 13.0mm
2.5	Item	Spears Flameguard SDR-13.5 50mm cPVC Pipe
	Dimensions	Diameter (OD): 60.2mm
		Diameter (ID): 49.6mm
		Wall Thickness (T): 5.3mm
2.6	Item	K Flex Fire-retardant nitrile insulation 15x19
	Dimensions	Diameter (OD): 53.0mm
		Diameter (ID): 15.0mm
		Insulation Thickness (T): 19.0mm
2.7	Item	Kembla NZS3501 2 32x1.22 B 32mm Copper Pipe
	Dimensions	Diameter (OD): 34.2mm
		Diameter (ID): 31.1mm
		Wall Thickness (T): 1.65mm
2.8	Item	K Flex Fire-retardant nitrile insulation 32x19
	Dimensions	Diameter (OD): 70.0mm
		Diameter (ID): 32.0mm
		Insulation Thickness (T): 19.0mm
2.9	Item	K Flex Fire-retardant nitrile insulation 15x32
	Dimensions	Diameter (OD): 79.0mm
		Diameter (ID): 15.0mm
		Insulation Thickness (T): 32.0mm
2.10	Item	K Flex Fire-retardant nitrile insulation 32x32
	Dimensions	Diameter (OD): 32.0mm
		Diameter (ID): 96.0mm
		Insulation Thickness (T): 32.0mm
2.11	Item	K Flex Fire-retardant nitrile insulation 15x25
	Dimensions	Diameter (OD): 65.0mm
		Diameter (ID): 15.0mm
		Insulation Thickness (T): 25.0mm

Sealants		
3.1	Item	Boss FireMastic-300
	Dimensions	600mL sausage
3.2	Item	Boss FireMastic-HPE
	Dimensions	600mL sausage

Intumescent		
4.1	Item	BOSS Collar Shell 80 (no intumescent included)
	Collar	Height: 30mm Maximum Opening: 105mm Steel Thickness: 0.70BMT
	Fixing Points	3

Fixings		
5.1	Item	Bremick Hex Head Screw Type 17
	Dimensions	12g x 25mm
5.2	Item	Ramset RD16 16mm Steel Disc
	Dimensions	Diameter (OD): 16mm
5.3	Item	Ramset Hollow Wall Anchor 16-24mm
	Description	Cavity fixing for plasterboard up to 38mm

5. Test Conditions

5.1 Equipment

Furnace:

1200X1200mm Indicative Furnace designed to operate to AS1530.4:2014

Temperature:

Furnace Temperature measurements were controlled with 3mm Type K MIMS thermocouples set within 50-100 mm from the face of the specimens in line with AS1530.4-2014. All thermocouples are calibrated by ISO/IEC 17025 accredited laboratory - a signatory to the International Laboratory Accreditation Corporation (ILAC) through their Mutual Recognition Agreement (MRA) to the accuracy required by AS 1530.4-2014.

Pressure measurement:

Keypare Siemens Data logging system including multi-channel recording data at 5 second intervals. Calibrated by ISO/IEC 17025 accredited laboratory - a signatory to the International Laboratory Accreditation Corporation (ILAC) through their Mutual Recognition Agreement (MRA) to the accuracy required by AS 1530.4-2014.

Ambient Temperature:

Ambient temperature was recorded 15 minutes before the test was commenced, at the start of the test and monitored during the test. All thermocouples are calibrated by ISO/IEC 17025 accredited laboratory - a signatory to the International Laboratory Accreditation Corporation (ILAC) through their Mutual Recognition Agreement (MRA) to the accuracy required by AS 1530.4-2014.

Specimen thermocouples:

Specimen thermocouples were installed to the unexposed face. Type K copper disk thermocouples fixed within the required locations referenced from AS1530.4-2014. Thermocouples are calibrated by ISO/IEC 17025 accredited laboratory - a signatory to the International Laboratory Accreditation Corporation (ILAC) through their Mutual Recognition Agreement (MRA) to the accuracy required by AS 1530.4-2014.

Dimensional measurements:

All linear measurements are made with equipment calibrated by ISO/IEC 17025 accredited laboratory - a signatory to the International Laboratory Accreditation Corporation (ILAC) through their Mutual Recognition Agreement (MRA) to the accuracy required by AS 1530.4-2014.

5.2 Furnace Data

Furnace Temperature:

The furnace was controlled to follow the temperature/time relationship specified in AS 1530.4-2014.

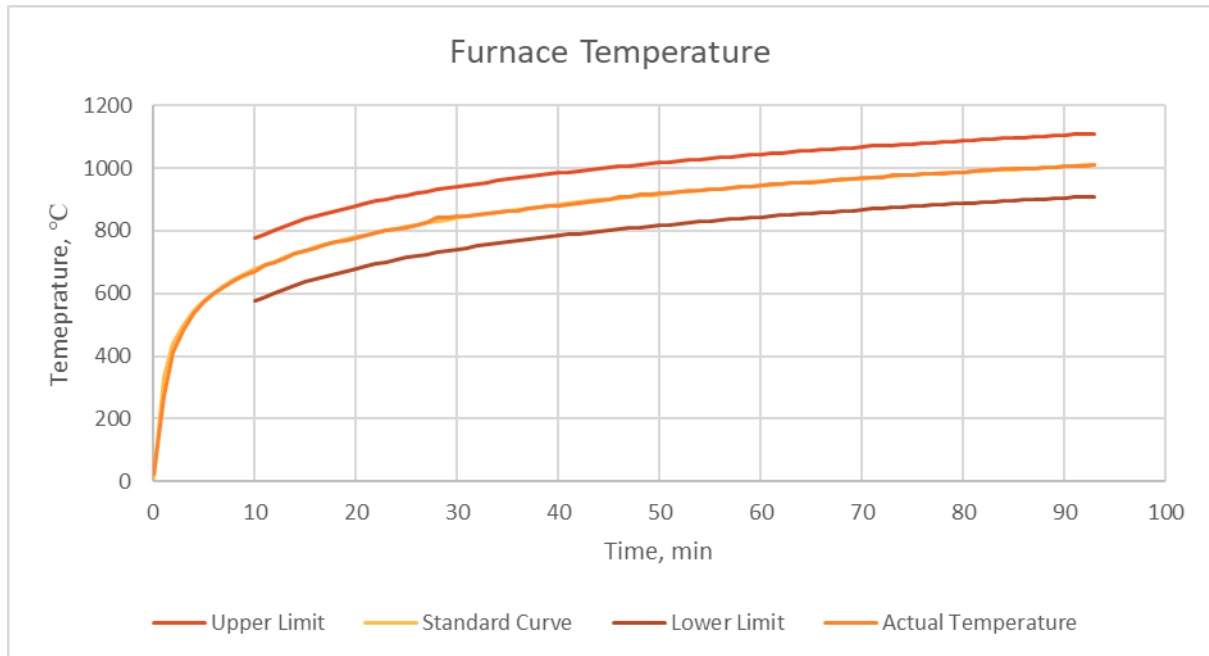


Figure 1 - Furnace Temperature during the test

Ambient Temperature:

The ambient temperature of the test area 15 minutes before the test and at the commencement of the test was 18°C.

Furnace Pressure:

After the first 5 minutes of the test, the furnace pressure was maintained at 15 ± 3 Pa with respect to atmosphere. The probe was located 500mm above the furnace floor.

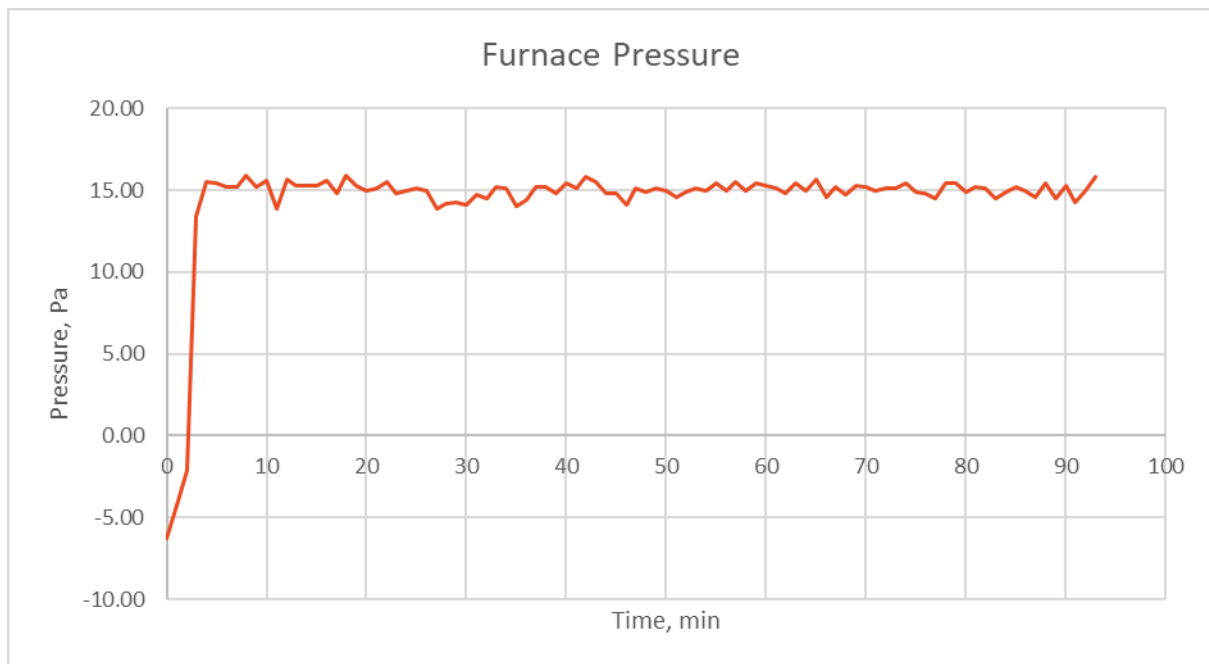


Figure 2 - Furnace Pressure during the test

5.3 Thermocouple locations

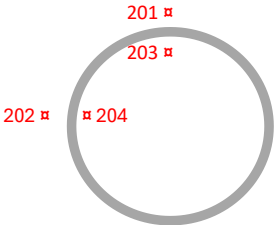
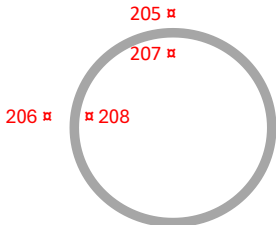
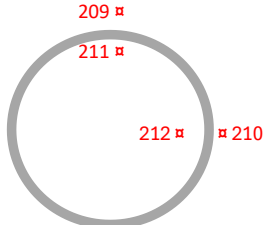
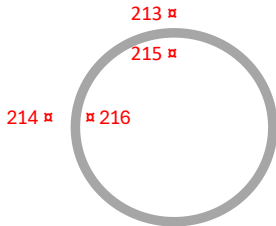
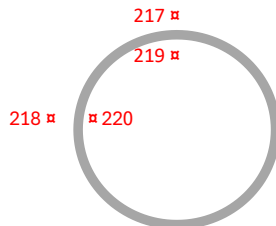
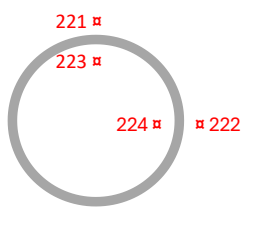
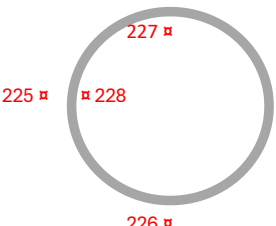
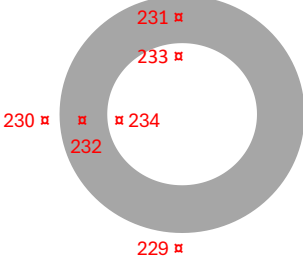
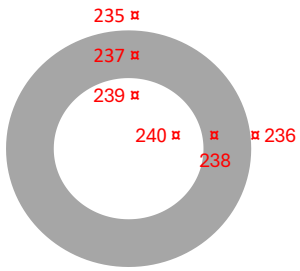
Service: COPPER PIPE - 32 # of Thermocouples: 4 Start: TC201 Finish: TC204 SP8 	Service: COPPER PIPE - 32 # of Thermocouples: 4 Start: TC205 Finish: TC208 SP6 	Service: COPPER PIPE - 50 # of Thermocouples: 4 Start: TC209 Finish: TC212 SP2 
Service: COPPER - 15 # of Thermocouples: 4 Start: TC213 Finish: TC216 SP7 	Service: COPPER - 15 # of Thermocouples: 4 Start: TC217 Finish: TC220 SP5 	Service: COPPER - 15 # of Thermocouples: 4 Start: TC221 Finish: TC224 SP3 
Service: COPPER - 15 # of Thermocouples: 4 Start: TC225 Finish: TC228 with 25mm thick nitrile insulation 	Service: CPVC - 50 # of Thermocouples: 6 Start: TC229 Finish: TC234 	Service: CPVC - 25 # of Thermocouples: 6 Start: TC235 Finish: TC240 

Figure 3 - Thermocouple locations

6. Test Results

6.1 Observations during the test

Time min	Test face	SP#	OBSERVATIONS/REMARKS
3	U	4	Smoke coming through from between the collar and separating element
4	E	1	Pipe dislodged from the separating element
8	E	4	Pipe dislodged from the separating element
8	E	ALL	Sealant intumescent beginning to expand
13	U	3, 5, 6, 7, 8, 9	Nitrile rubber insulation beginning to expand
14	U	1, 4	Pipes appear to be slightly distorted
18	U	4	Moisture and discolouration visible on the separating element around the collar
18	U	2	Sealant visibly starting to discolour
22	U	4, 5, 7, 9	Cracks developing in the sealant
25	U	2	Discolouration visible on pipe
28	U	1	Smoke coming through from around the pipe
32	U	4	Intumescent from the sealant beginning to expand
42	U	5	Crack in nitrile rubber insulation, smoke coming through
42	U	6	Crack in nitrile rubber insulation, discolouration of insulation
45	U	6	Discolouration visible on sealant
51	U	6	Roving thermocouple by TC207 measures 110°C
52	U	1	Hole in pipe, intumescent engaged and sealant expanding
57	U	6	TC207 partially dislodged from nitrile rubber insulation
62	U	6	Intumescent from sealant continues to expand
62	U	8	Discolouration of nitrile rubber insulation
66	U	3, 5	Intumescent from sealant beginning to expand
66	U	8	Crack in nitrile rubber insulation, smoke coming through crack

70	U	6	Intumescent from sealant beginning to fall away from the separating element
75	U	6	TC207 reading sealant temperature, roving thermocouple measured at the top of the service - 130°C
75	U	3, 4, 6	Separating element beginning to discolour
80	U	6	Roving thermocouple measured at the top of the service – 150°C
82	U	2	Separating element beginning to discolour
83	U	4	Hole developed at top of pipe, intumescent visible
84	U	4	Cotton pad test – PASS
85	U	6	Roving thermocouple measured at the top of the service – 180°C
87	U	4	Cotton pad test – PASS
88	U	4	Open flame + 10sec
91	U	4	Pipe dislodged from the separating element
95			TEST DISCONTINUED

NOTE: E – Exposed Face (inside furnace)
U – Unexposed Face (outside furnace)
SE – Separating element

6.2 Specimen 1

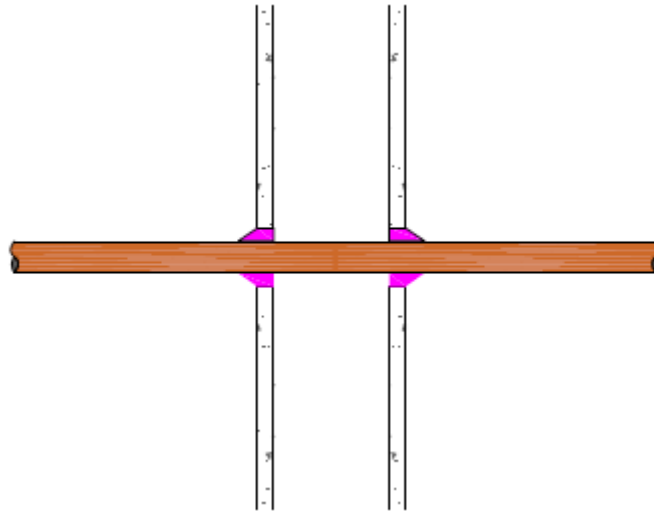


Figure 4 - Specimen 1

Service penetration details	
Service	25mm cPVC Pipe
Service Support	Exposed Side: 280mm Unexposed Side: 480mm and 1630mm
Aperture Size	52.2mm
Annular Spacing	Min: 8.6mm, Max: 9.8mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element. 2. 15mm x 15mm FireMastic-HPE fillet applied around pipe.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	90 minutes

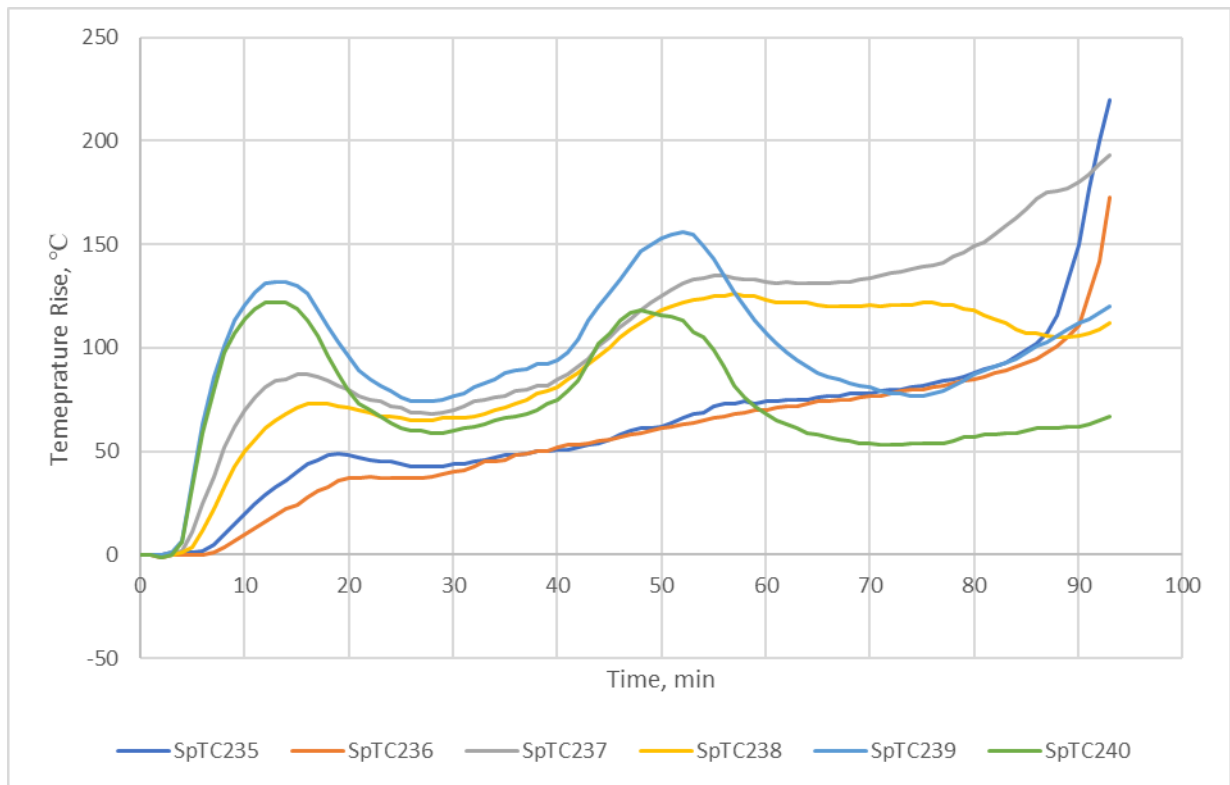


Figure 5 - Specimen 1 thermocouple temperature rise readings

6.3 Specimen 2

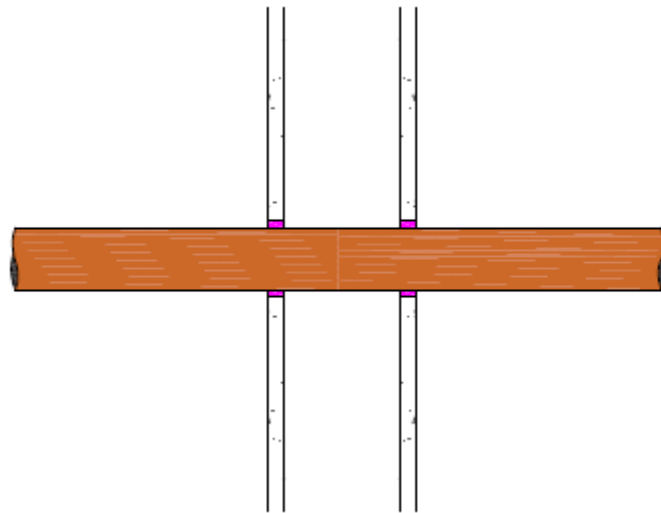


Figure 6 - Specimen 2

Service penetration details	
Service	50mm Copper Pipe
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	65.1mm
Annular Spacing	Min: 4.8mm, Max: 7.1mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-300
Procedure	1. FireMastic-300 applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	11 minutes

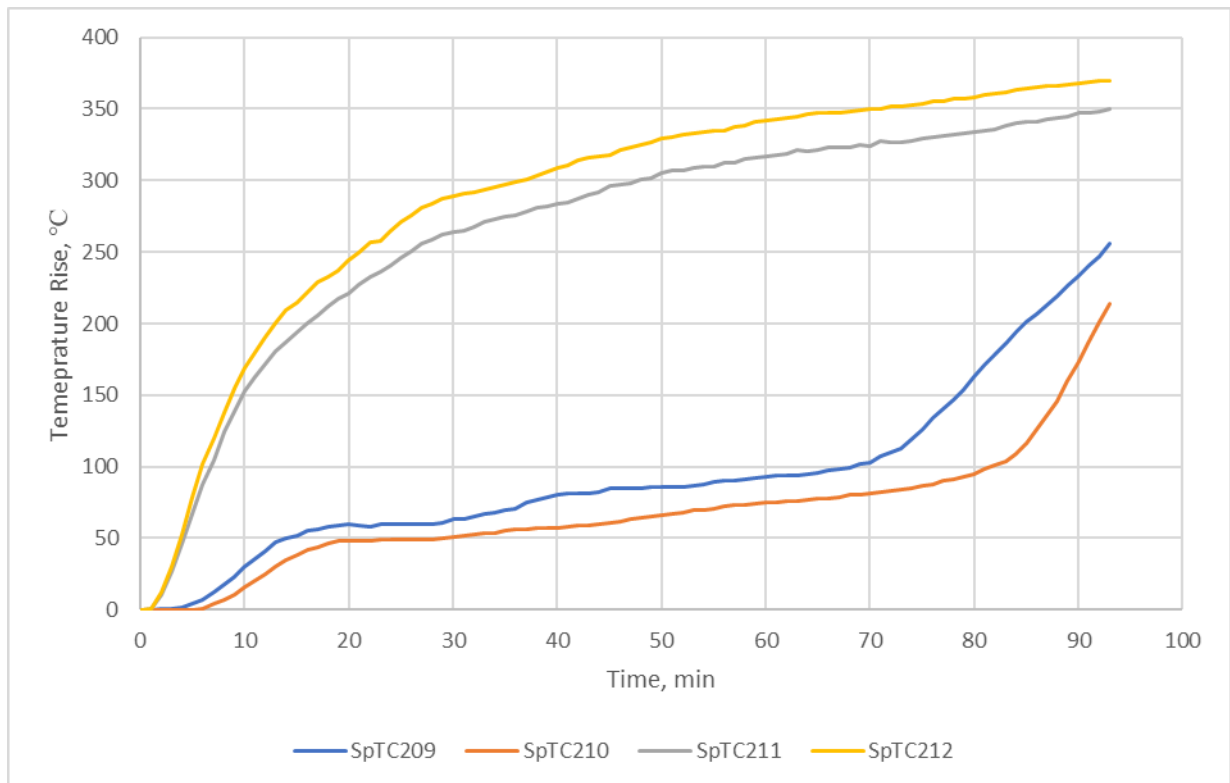


Figure 7 - Specimen 2 thermocouple temperature rise readings

6.4 Specimen 3

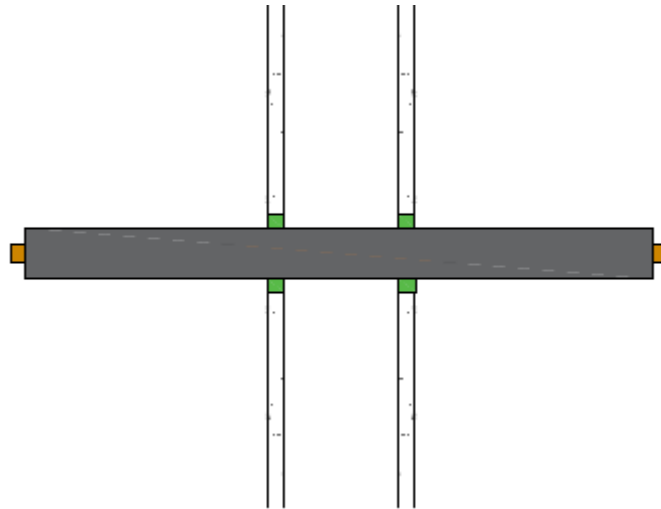


Figure 8 - Specimen 3

Service penetration details	
Service	15mm Copper Pipe with 13mm thick nitrile insulation
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	61.6mm
Annular Spacing	Min: 8.2mm, Max: 12.3mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	88 minutes

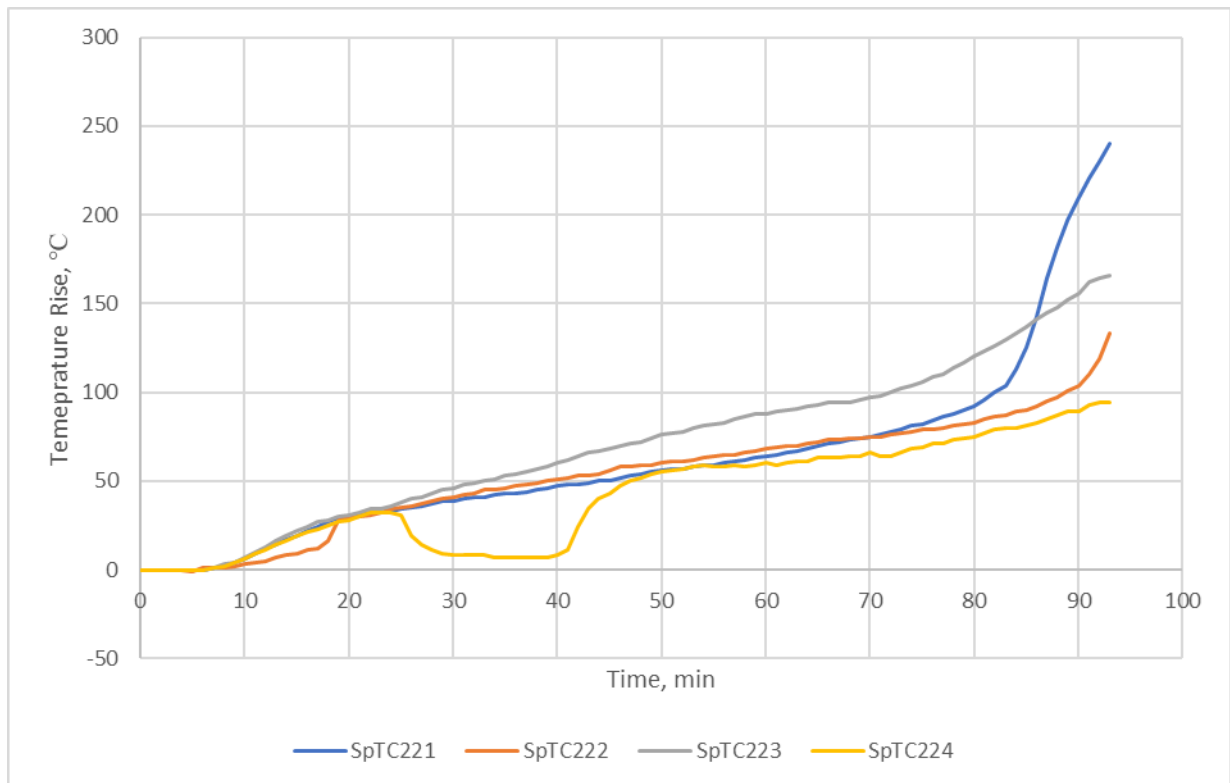


Figure 9 - Specimen 3 thermocouple temperature rise readings

6.5 Specimen 4

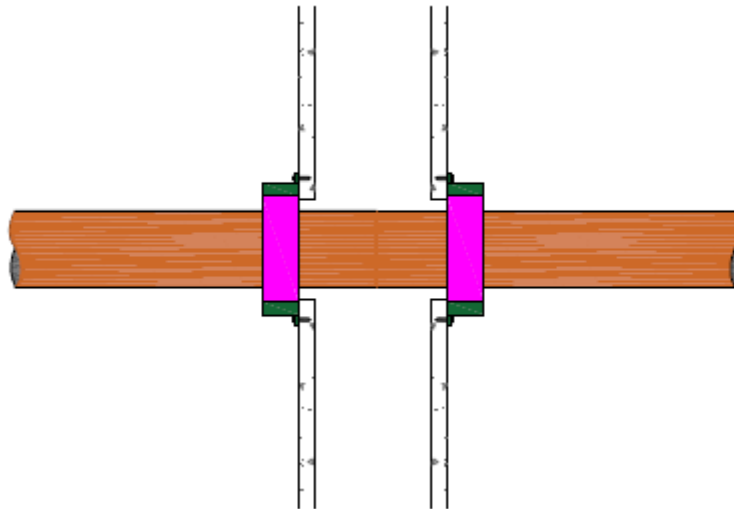


Figure 10 - Specimen 4

Service penetration details	
Service	50mm cPVC Pipe
Service Support	Exposed Side: 280mm Unexposed Side: 480mm and 1630mm
Aperture Size	78.7mm
Annular Spacing	Min: 8.7mm, Max: 9.8mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	Boss Collar 80, FireMastic-HPE
Procedure	1. Collar wrapped around services and secured to the separating element in the fixing points with screws and washers. 2. FireMastic-HPE applied in the collar around pipe, finished flush with the top of the collar.

Test results

Structural adequacy	Not applicable
Integrity	88 minutes
Insulation	88 minutes

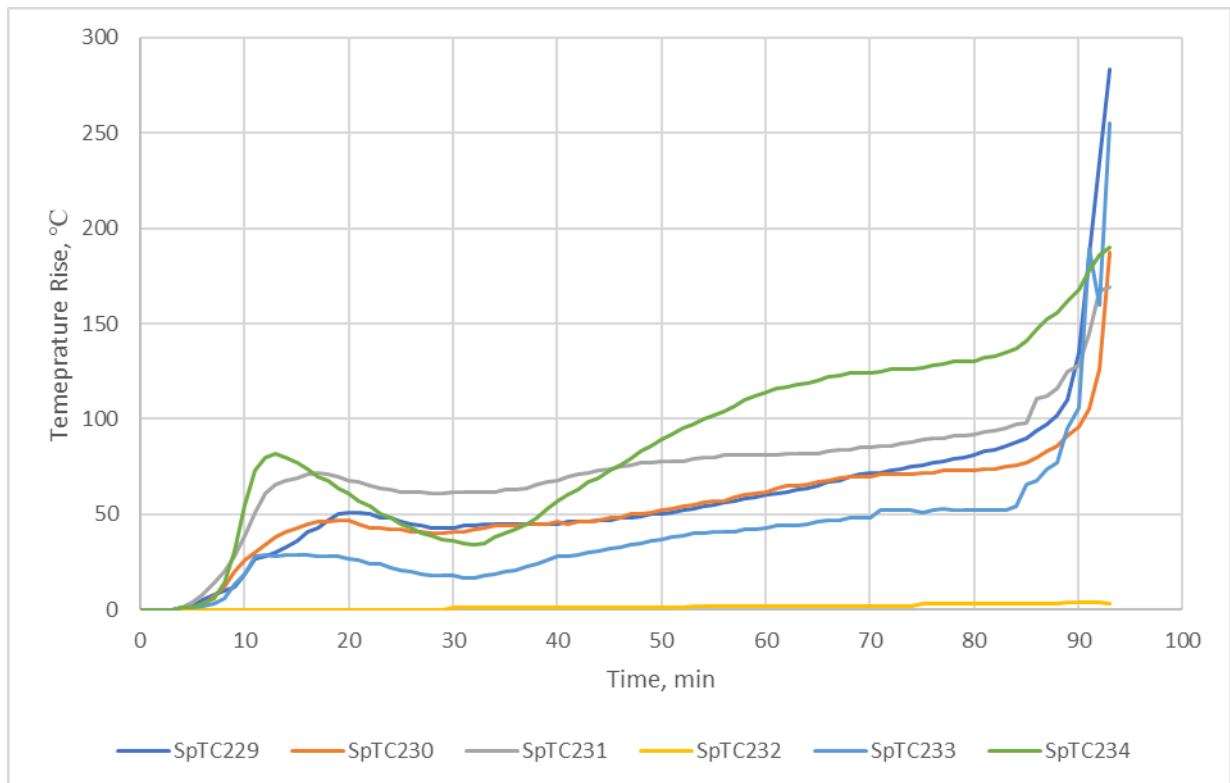


Figure 11 - Specimen 4 thermocouple temperature rise readings

6.6 Specimen 5

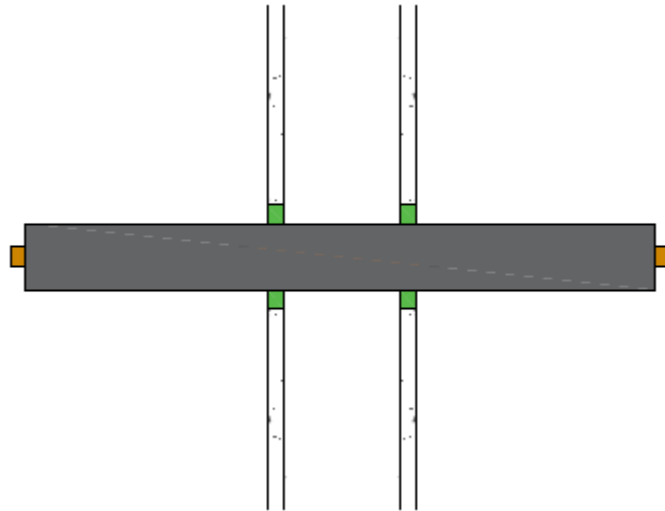


Figure 12 - Specimen 5

Service penetration details	
Service	15mm Copper Pipe with 19mm thick nitrile insulation
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	82.8mm
Annular Spacing	Min: 13.7mm, Max: 16.0mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	No failure at 95 minutes

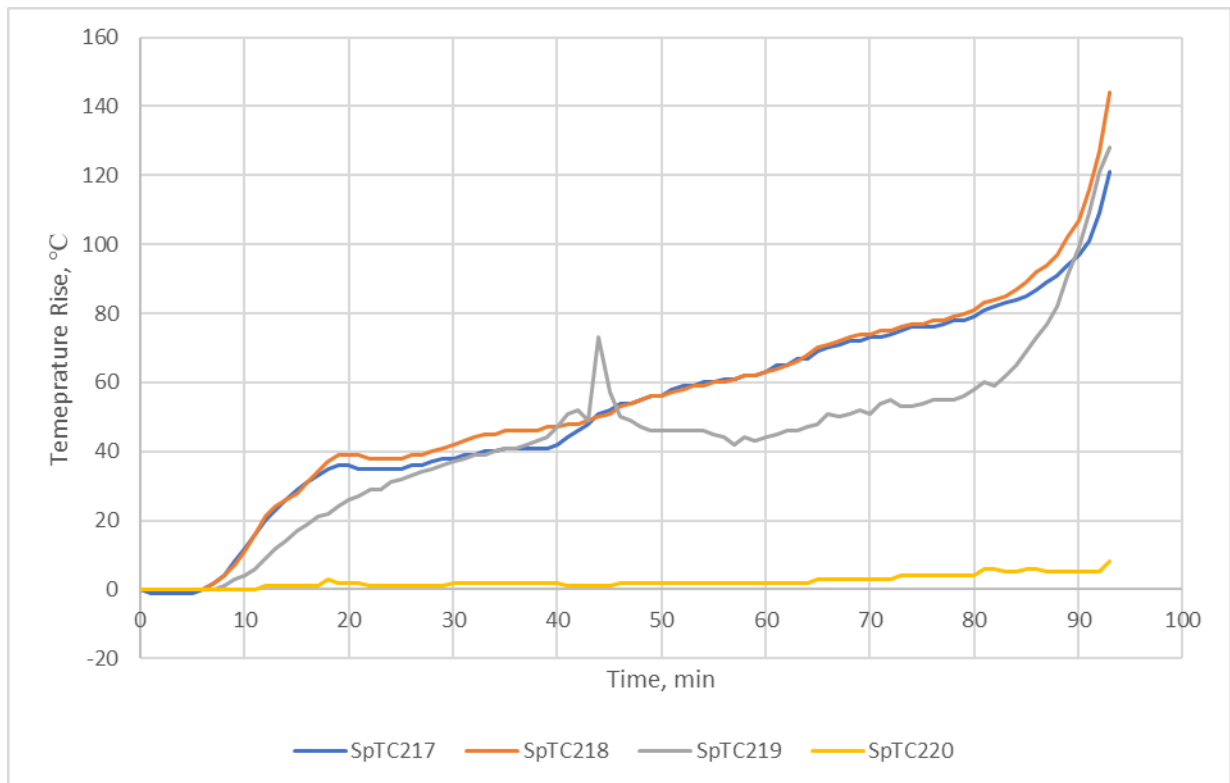


Figure 13 - Specimen 5 thermocouple temperature rise readings

6.7 Specimen 6

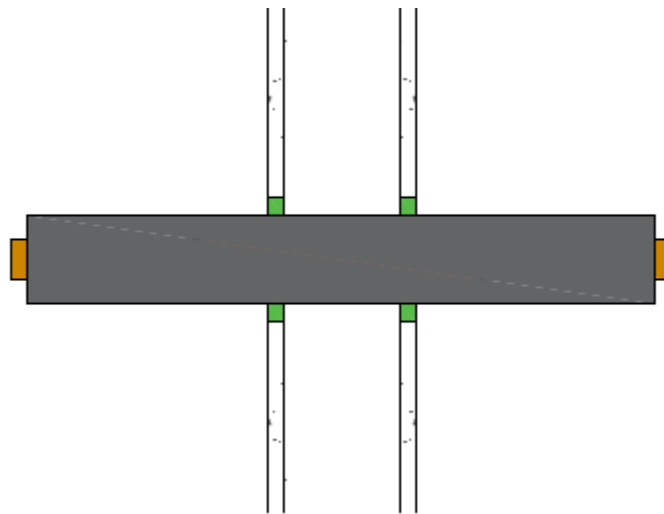


Figure 14 - Specimen 6

Service penetration details	
Service	32mm Copper Pipe with 19mm thick nitrile insulaton
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	107.5mm
Annular Spacing	Min: 16.8mm, Max: 18.5mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	77 minutes

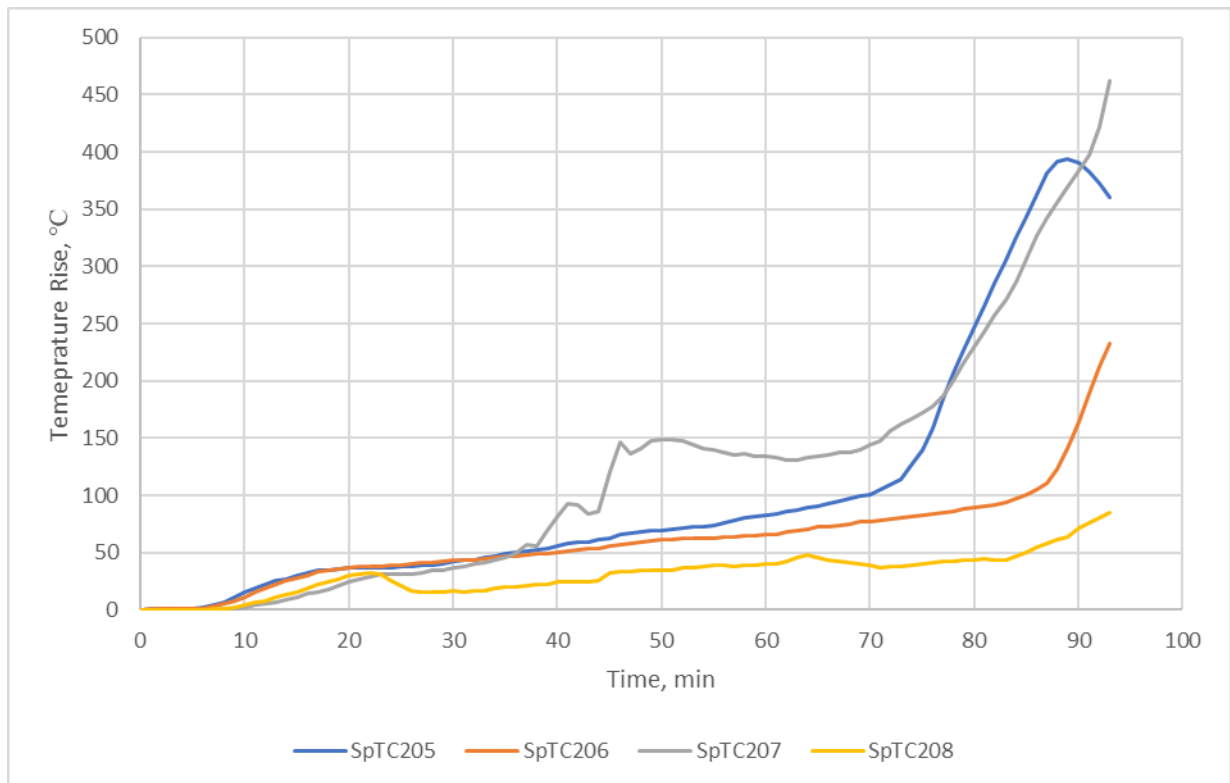


Figure 15 - Specimen 6 thermocouple temperature rise readings

NOTES:

- TC207 partially dislodged at 57 minutes
- TC207 became embedded and started recording the intumescent temperature at 62 minutes
- Roving thermocouple temperature measured at the top of the service at 75 minutes – 130°C
- Roving thermocouple temperature measured at the top of the service at 80 minutes – 150°C
- Roving thermocouple temperature measured at the top of the service at 85 minutes – 180°C

6.8 Specimen 7

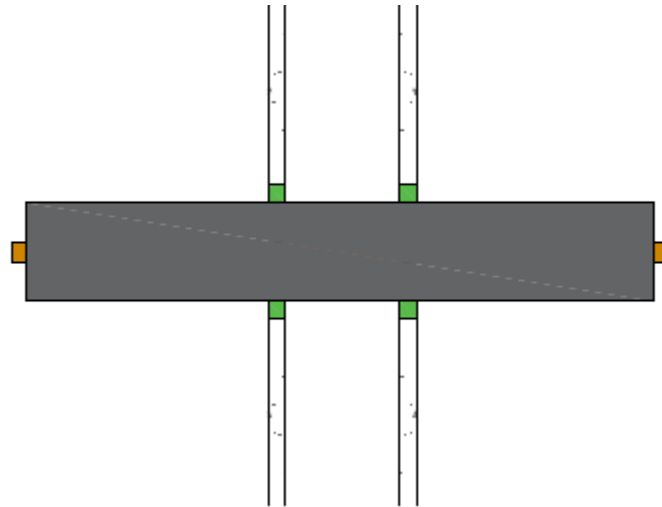


Figure 16 - Specimen 7

Service penetration details	
Service	15mm Copper Pipe with 32mm thick nitrile insulation
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	109.2mm
Annular Spacing	Min: 13.8mm, Max: 16.3mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	No failure at 95 minutes

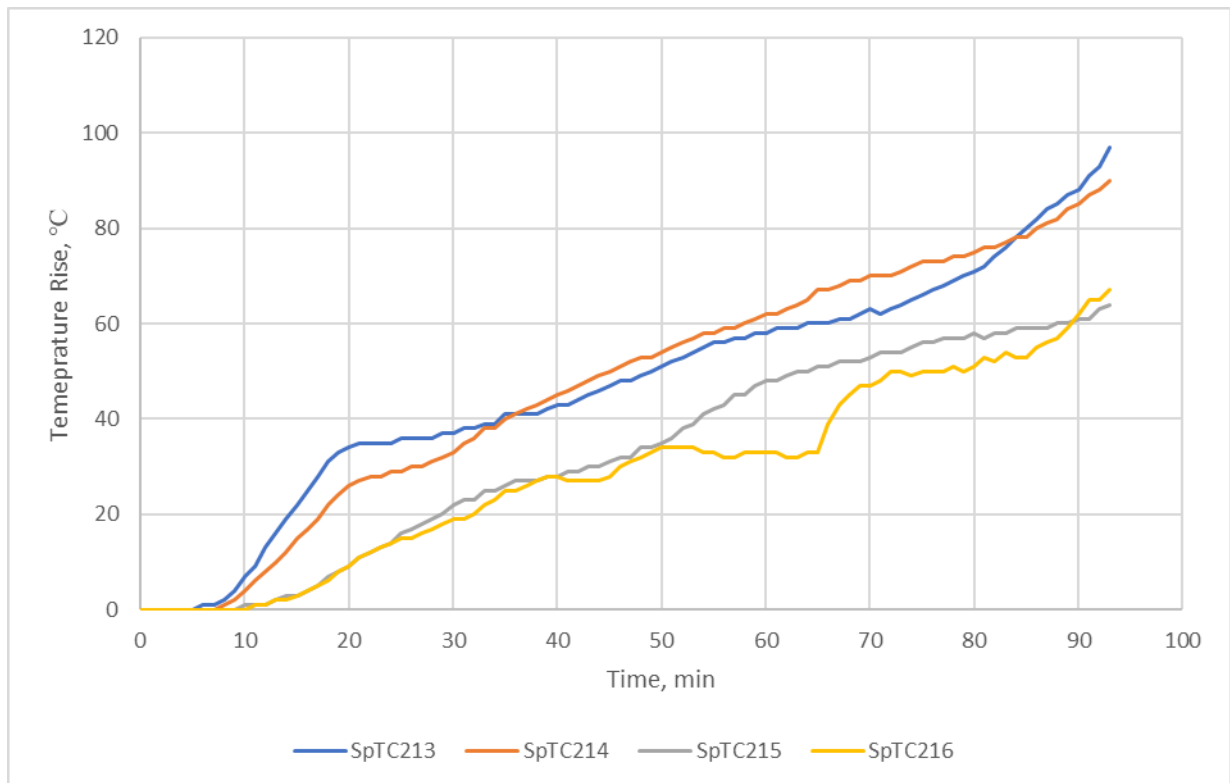


Figure 17 - Specimen 7 thermocouple temperature rise readings

6.9 Specimen 8

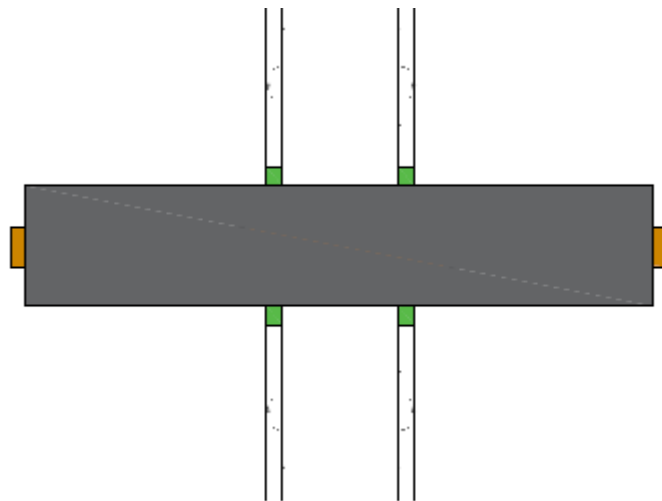


Figure 18 - Specimen 8

Service penetration details	
Service	32mm Copper Pipe with 32mm thick nitrile insulation
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	121.1mm
Annular Spacing	Min: 10.5mm, Max: 12.4mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	90 minutes

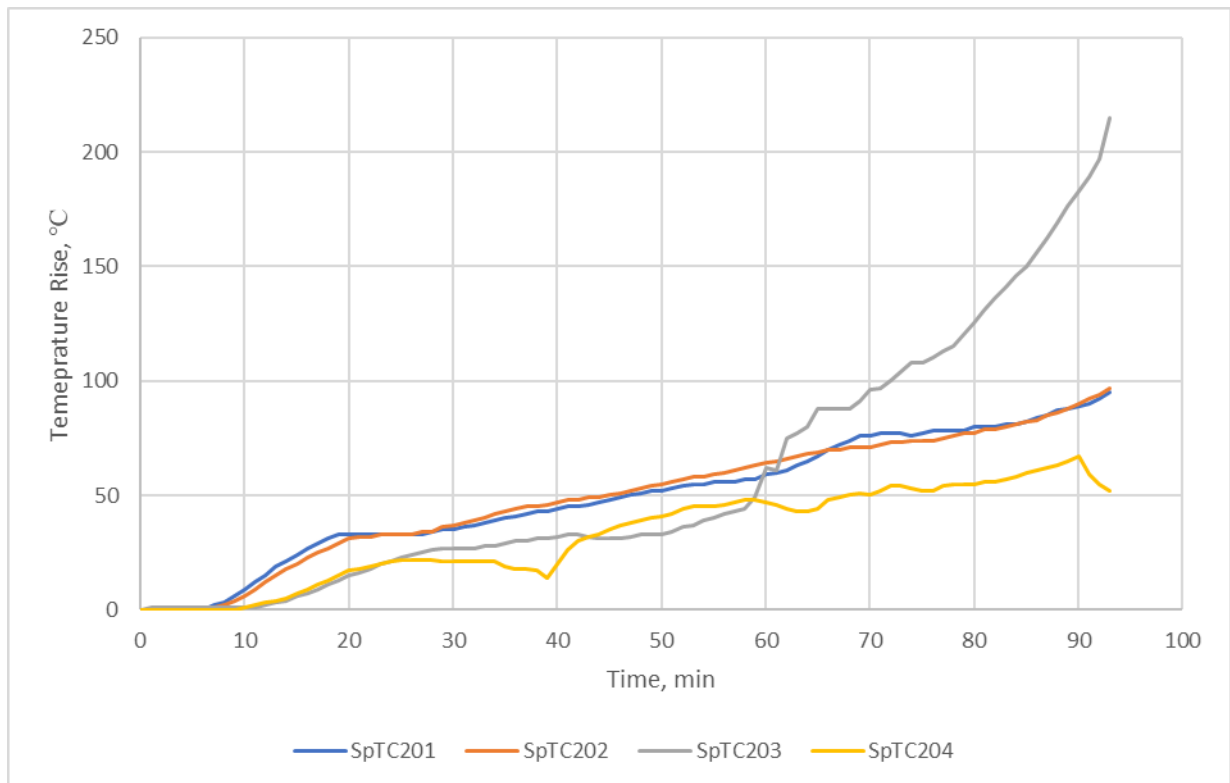


Figure 19 - Specimen 8 thermocouple temperature rise readings

6.10 Specimen 9

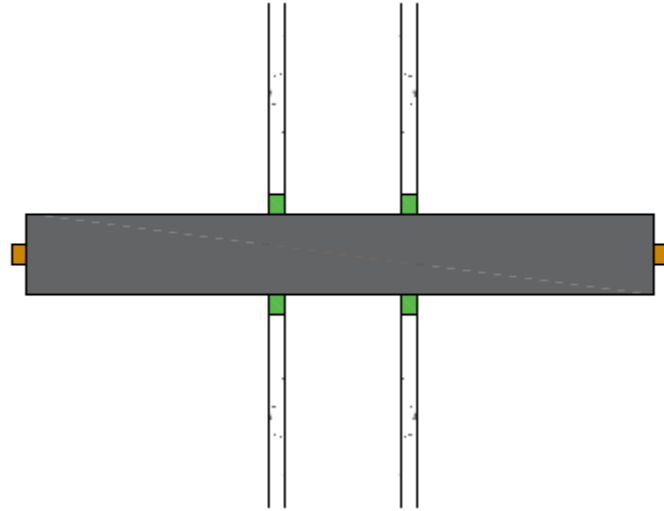


Figure 20 - Specimen 9

Service penetration details	
Service	15mm Copper Pipe with 25mm thick nitrile insulation
Service Support	Exposed Side: 280mm Unexposed Side: 480mm
Aperture Size	92.2mm
Annular Spacing	Min: 12.4mm, Max: 14.7mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	FireMastic-HPE
Procedure	1. FireMastic-HPE applied to the annular gap, 13mm (nominal) deep and finished flush with the separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 95 minutes
Insulation	No failure at 95 minutes

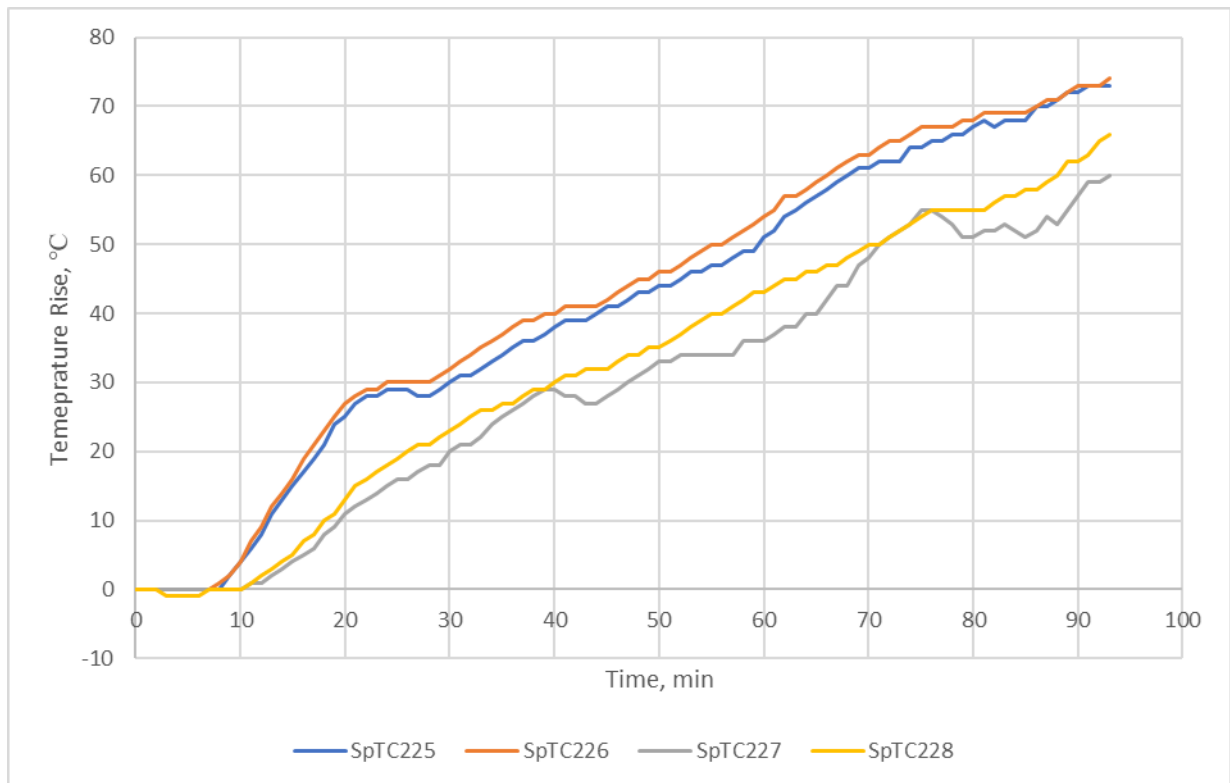


Figure 21 - Specimen 9 thermocouple temperature rise readings

7. Photos

7.1 Photos before the test



Figure 22 - Unexposed face prior to test commencement



Figure 23 - Exposed face prior to test commencement

7.2 During and after the test



Figure 24 - Unexposed face at 15 minutes



Figure 25 - Exposed face at 15 minutes



Figure 26 - Unexposed face at 30 minutes



Figure 27 - Exposed face at 30 minutes

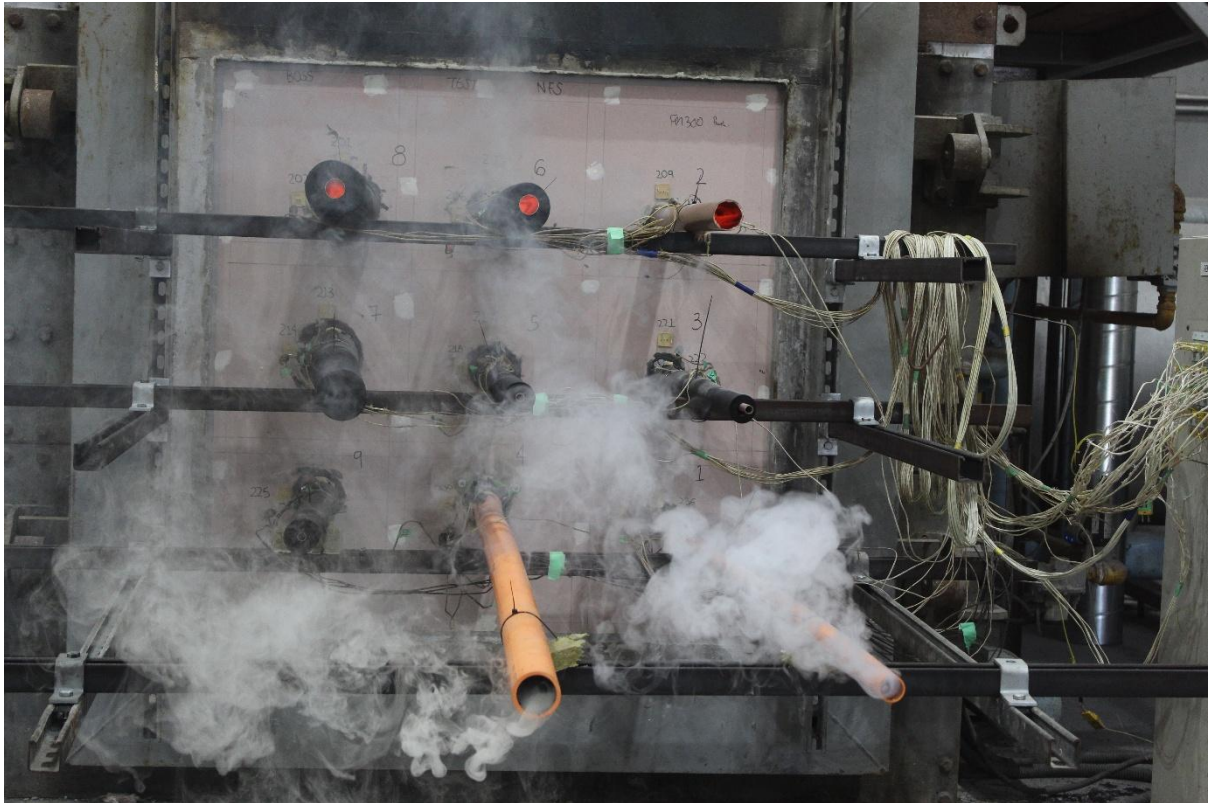


Figure 28 - Unexposed face at 45 minutes

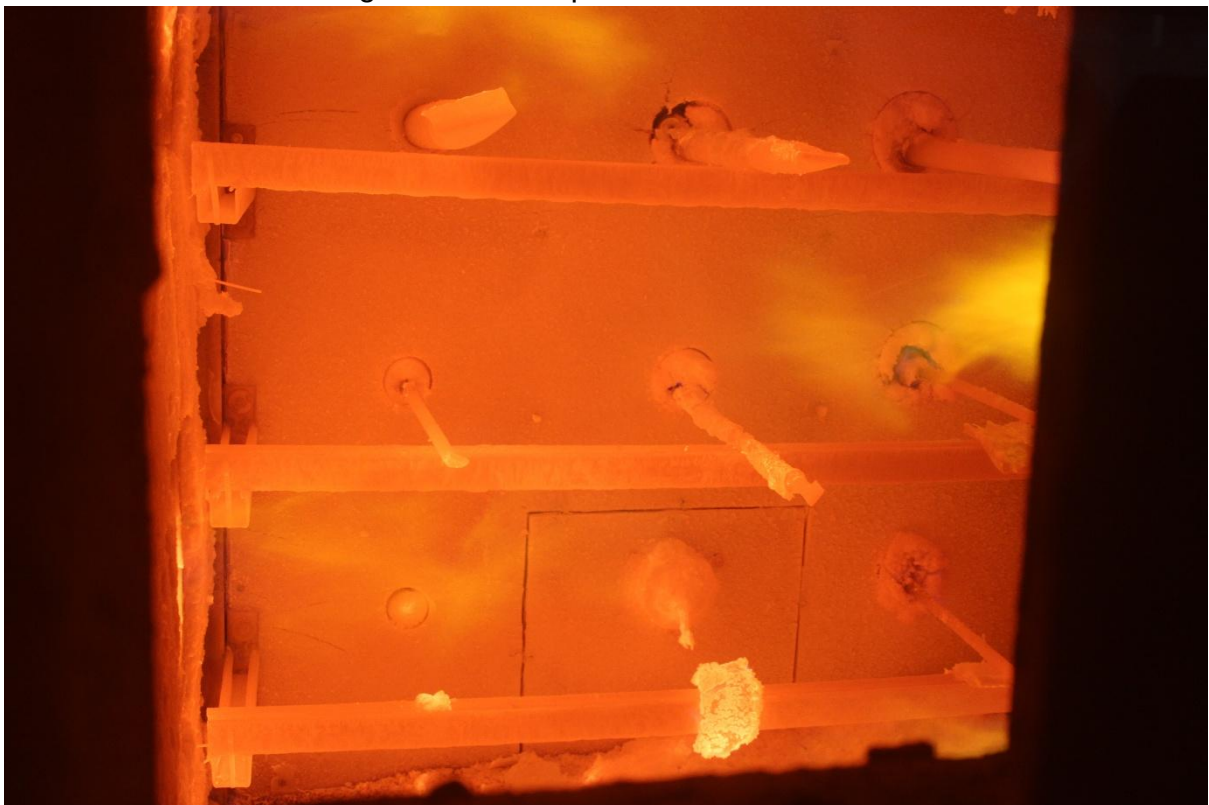


Figure 29 - Exposed face at 45 minutes



Figure 30 - Unexposed face at 60 minutes



Figure 31 - Exposed face at 60 minutes



Figure 32 - Unexposed face at 75 minutes



Figure 33 - Exposed face at 75 minutes



Figure 34 - Unexposed face at 90 minutes



Figure 35 - Exposed face after the test

8. Appendix

8.1 Client supplied drawings

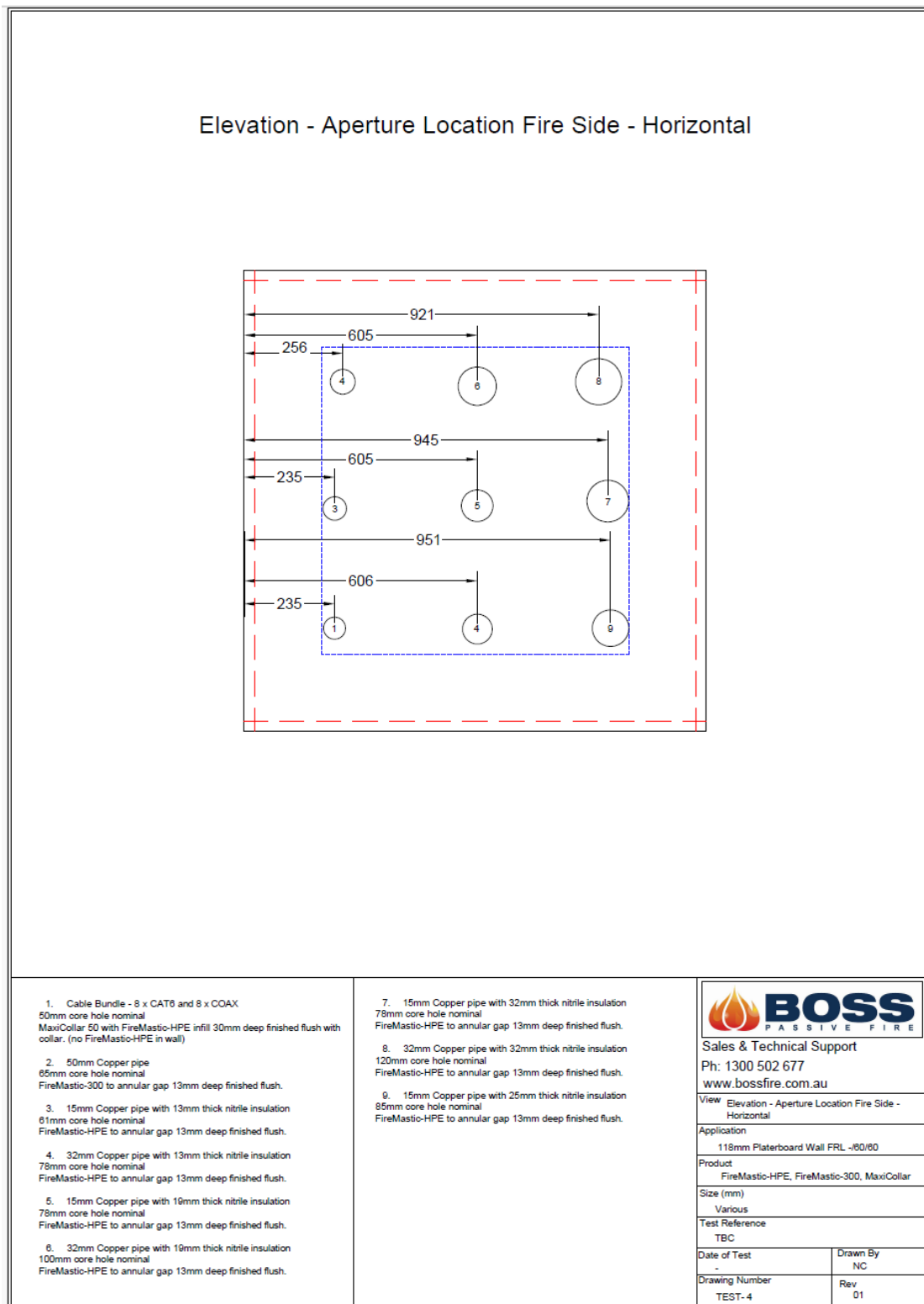
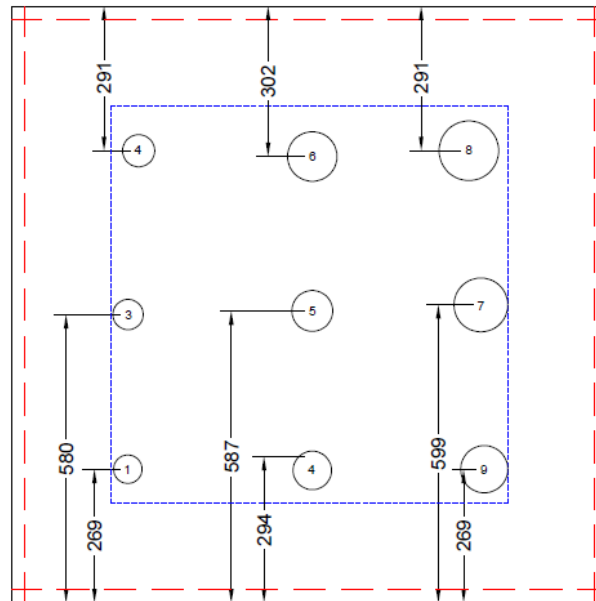


Figure 36 - Test 4 – Aperture Location Fire Side – Horizontal.pdf

Elevation - Aperture Location Fire Side - Vertical



1. Cable Bundle - 8 x CAT6 and 8 x COAX
50mm core hole nominal
MaxiCollar 50 with FireMastic-HPE infill 30mm deep finished flush with collar. (no FireMastic-HPE in wall)
2. 50mm Copper pipe
65mm core hole nominal
FireMastic-300 to annular gap 13mm deep finished flush.
3. 15mm Copper pipe with 13mm thick nitrile insulation
61mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
4. 32mm Copper pipe with 13mm thick nitrile insulation
78mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
5. 15mm Copper pipe with 10mm thick nitrile insulation
83mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
6. 32mm Copper pipe with 10mm thick nitrile insulation
100mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.

7. 15mm Copper pipe with 32mm thick nitrile insulation
78mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
8. 32mm Copper pipe with 32mm thick nitrile insulation
126mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
9. 15mm Copper pipe with 25mm thick nitrile insulation
95mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.



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View Elevation - Aperture Location Fire Side - Vertical

Application
118mm Plasterboard Wall FRL -60/60

Product
FireMastic-HPE, FireMastic-300, MaxiCollar

Size (mm)
Various

Test Reference
TBC

Date of Test
-

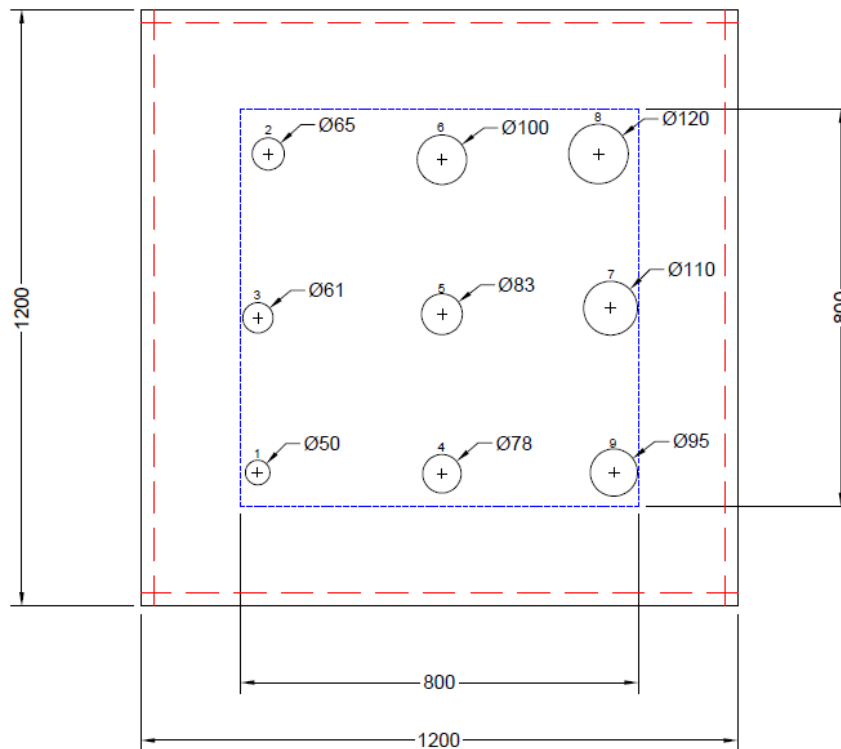
Drawn By
NC

Drawing Number
TEST-4

Rev
01

Figure 37 - Test 4 – Aperture Location Fire Side – Vertical.pdf

Elevation - Aperture Size Fire Side



1. Cable Bundle - 8 x CAT8 and 8 x COAX
50mm core hole nominal
MaxiCollar 50 with FireMastic-HPE infill 30mm deep finished flush with collar. (no FireMastic-HPE in wall)
2. 50mm Copper pipe
65mm core hole nominal
FireMastic-300 to annular gap 13mm deep finished flush.
3. 15mm Copper pipe with 13mm thick nitrile insulation
61mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
4. 32mm Copper pipe with 13mm thick nitrile insulation
78mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
5. 15mm Copper pipe with 18mm thick nitrile insulation
83mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
6. 32mm Copper pipe with 18mm thick nitrile insulation
100mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.

7. 15mm Copper pipe with 32mm thick nitrile insulation
78mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
8. 32mm Copper pipe with 32mm thick nitrile insulation
126mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.
9. 15mm Copper pipe with 25mm thick nitrile insulation
95mm core hole nominal
FireMastic-HPE to annular gap 13mm deep finished flush.



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View
Elevation - Aperture Size Fire Side

Application
118mm Plasterboard Wall FRL -/60/60

Product
FireMastic-HPE, FireMastic-300, MaxiCollar

Size (mm)
Various

Test Reference
TBC

Date of Test
-

Drawn By
NC

Drawing Number
TEST-4

Rev
01

Figure 38 - Test 4 – Aperture Size Fire Side.pdf

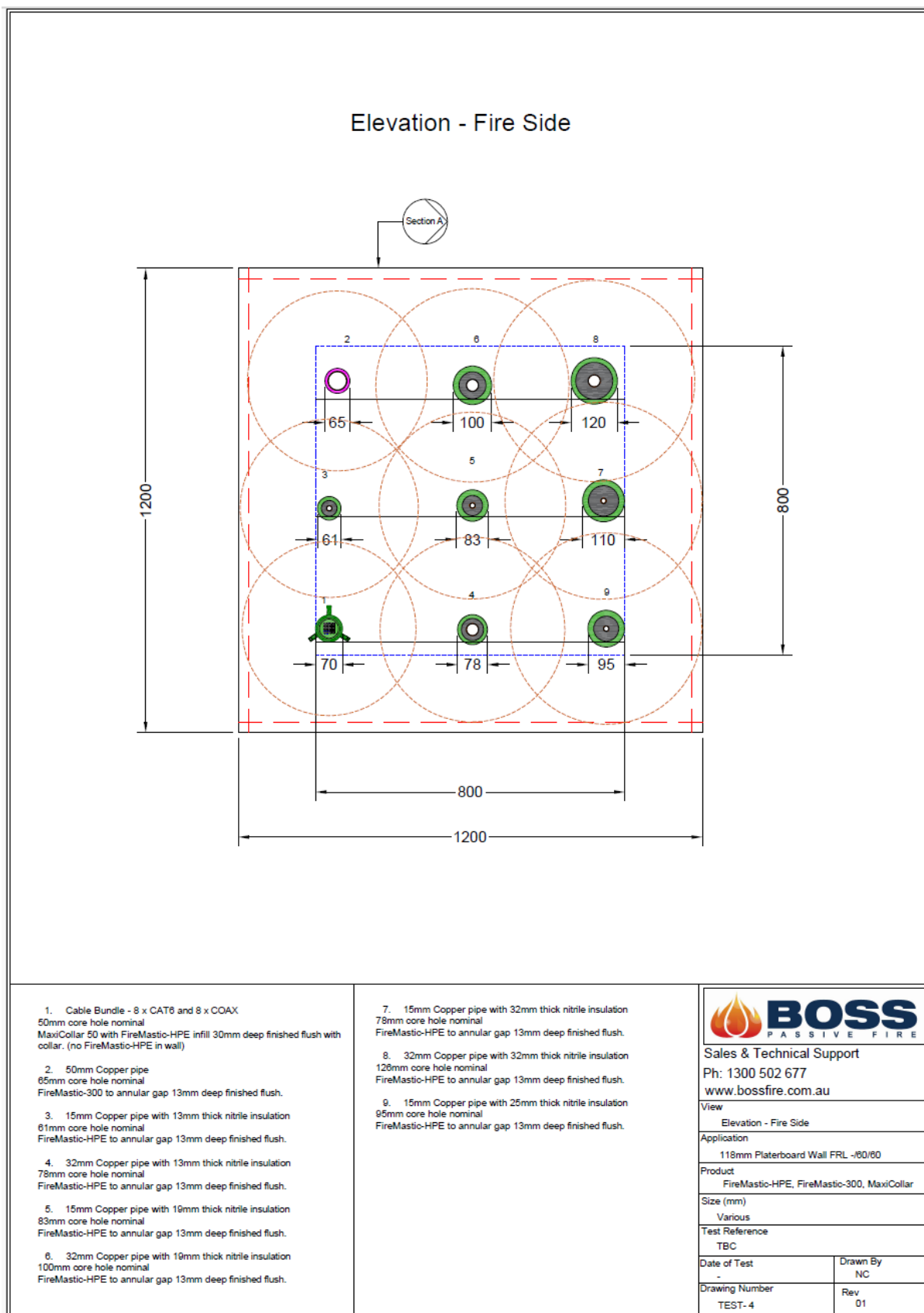


Figure 39 - Test 4 – Elevation – Fire Side.pdf

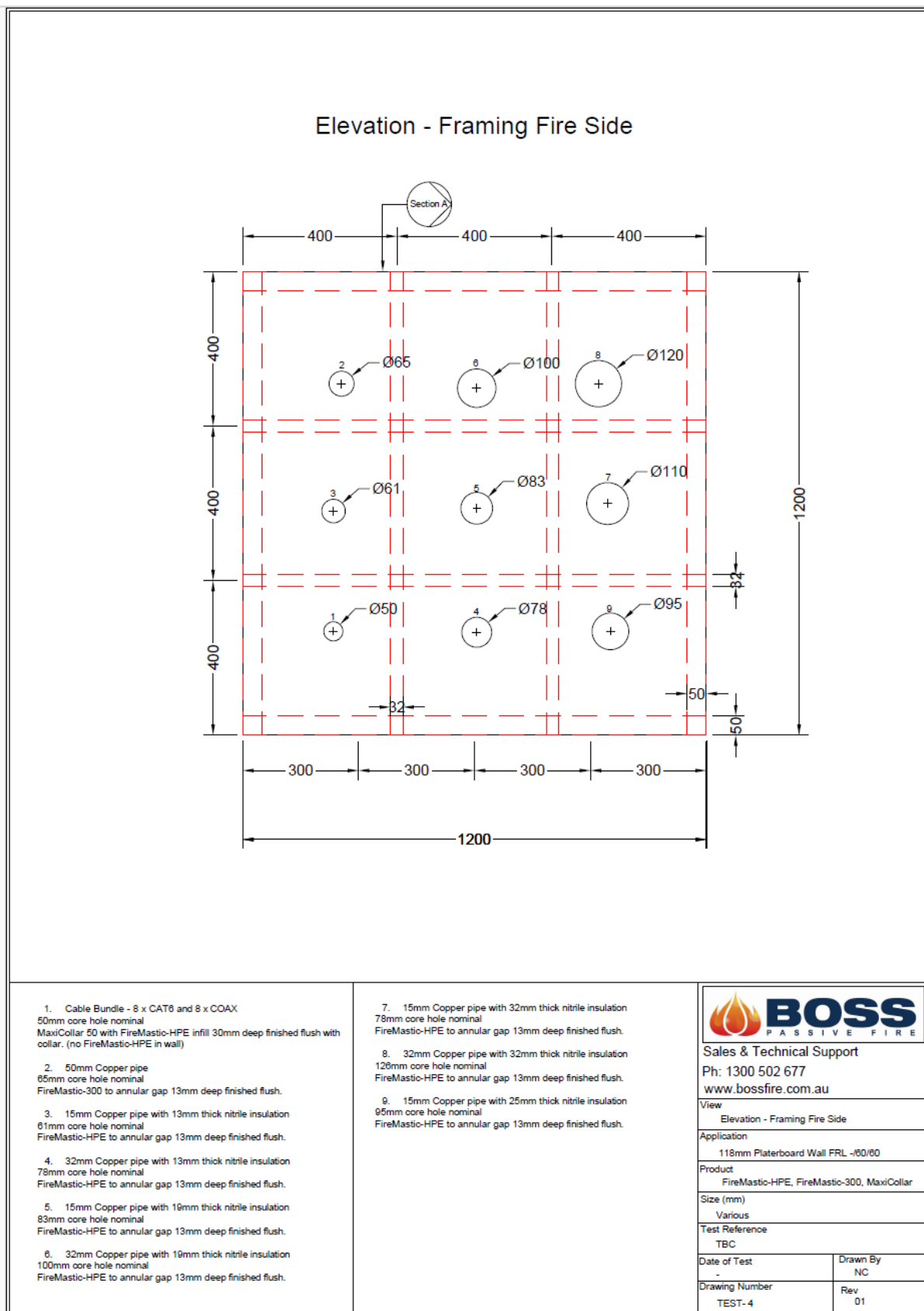


Figure 40 - Test 4 – Elevation – Framing Fire Side.pdf

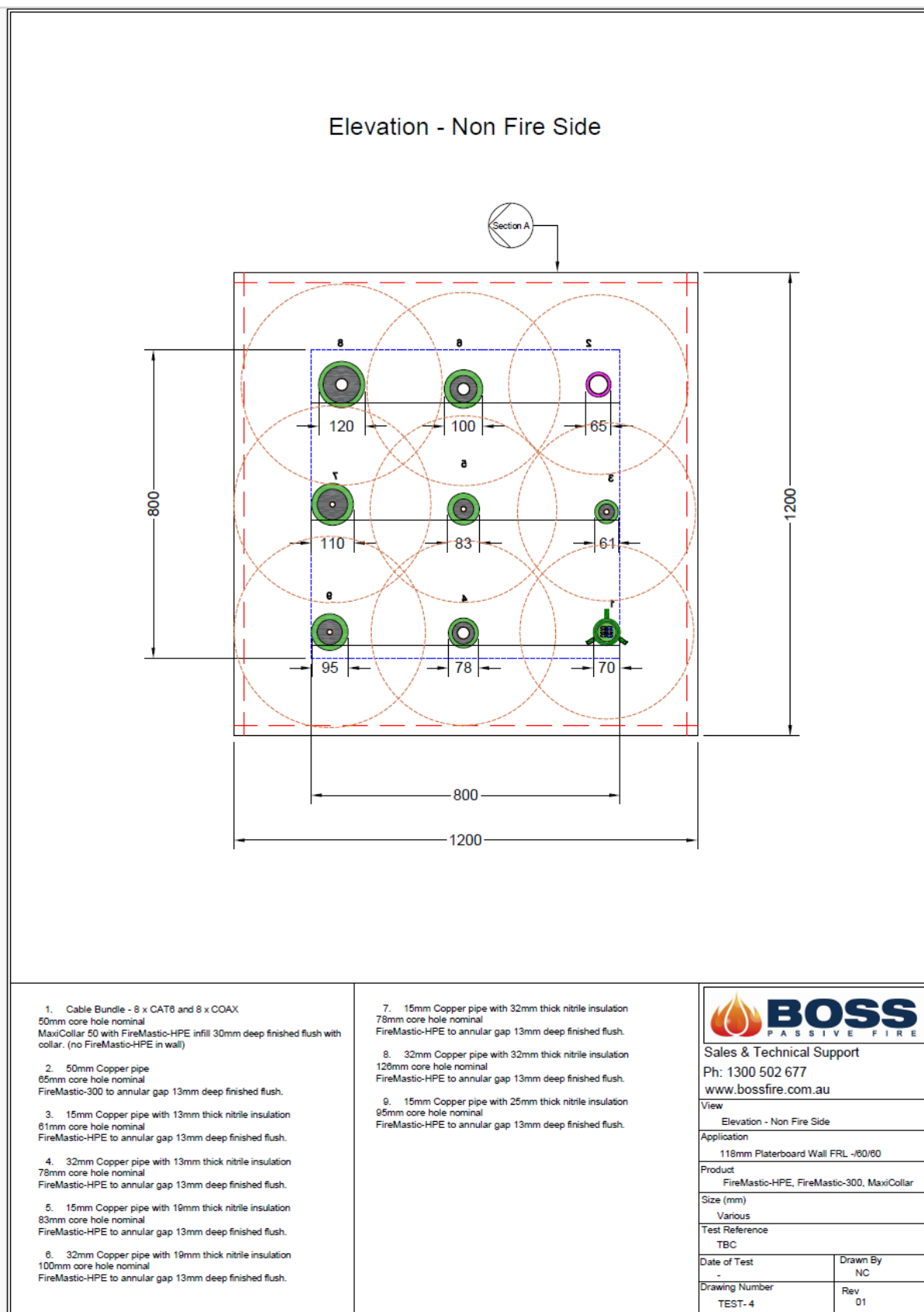


Figure 41 - Test 4 – Elevation – Non Fire Side.pdf

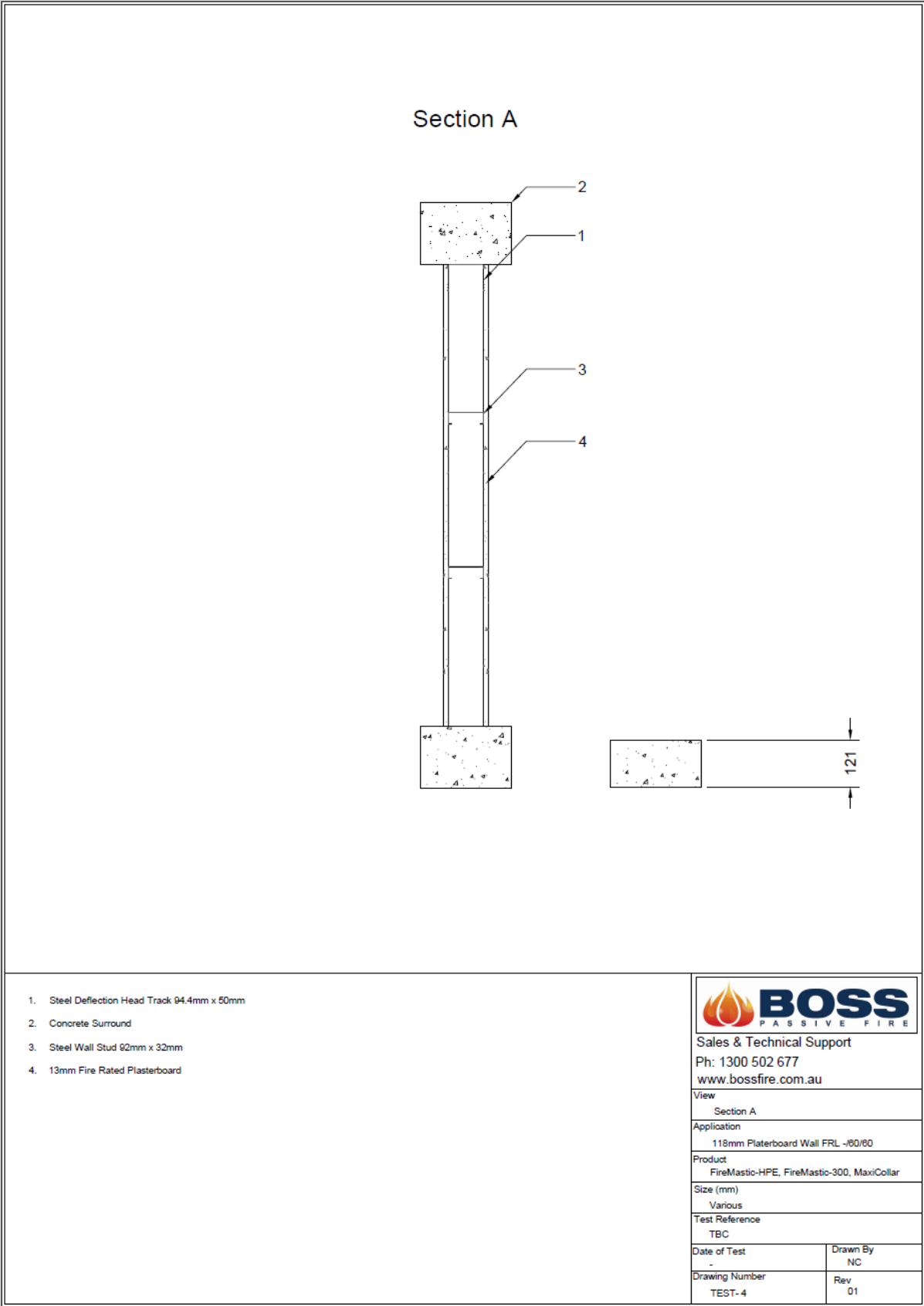


Figure 42 - Test 4 – Section A.pdf

Specimen Sections

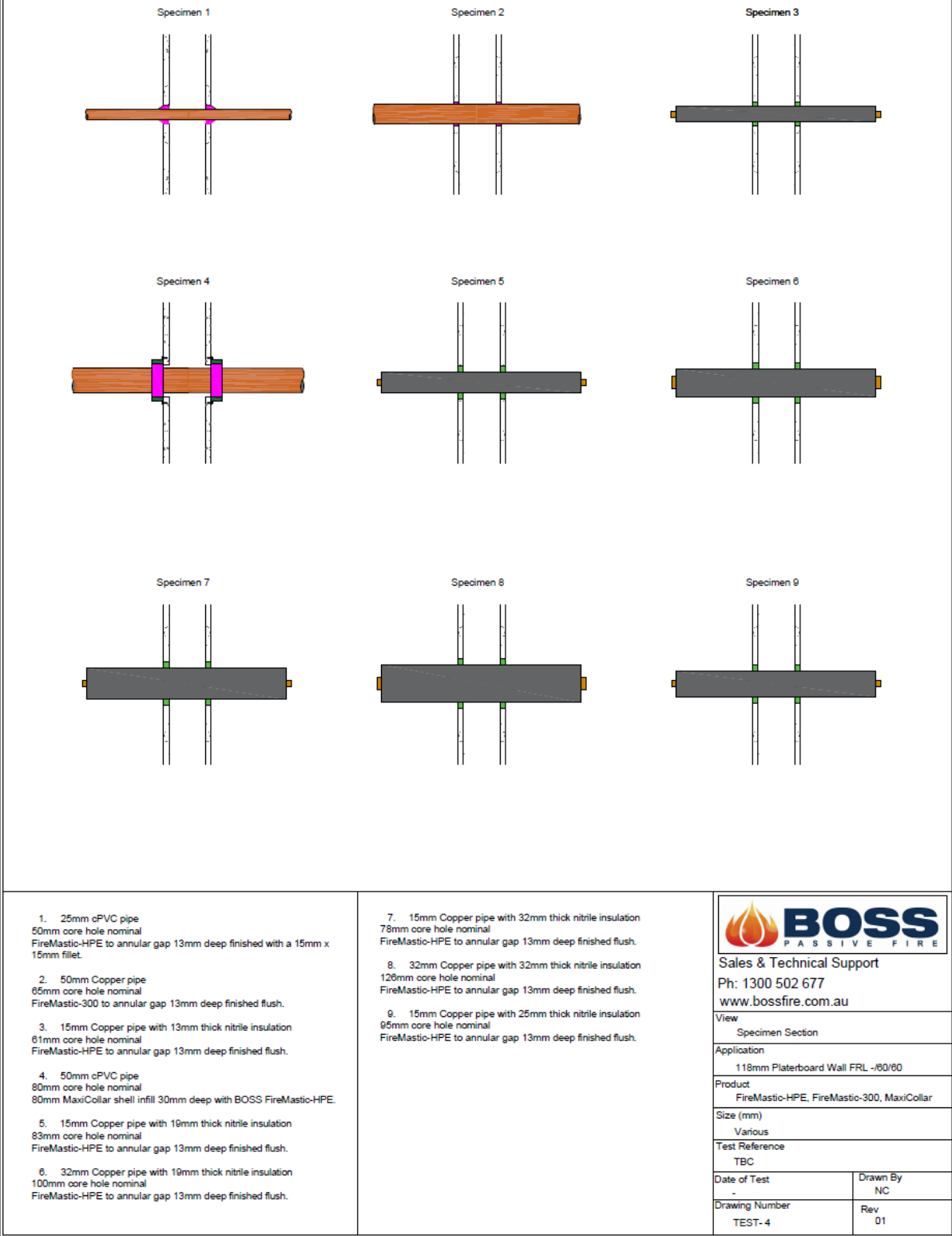


Figure 43 - Test 4 – Specimen Sections V3.pdf