

Regulatory Information Report

RIRF24068

**Fire resistance test for penetrations through
the vertical separating element**

Client:	Agnitek Ply Ltd
Test method:	AS1530.4-2014
Report Date:	10/07/2024
Test number:	PF24068


Table of Contents

1.1	Document revision schedule	3
1.2	Signatories	3
2.	Report Summary.....	4
3.	General Information	5
3.1	Testing Scope	5
3.2	Contact Details.....	5
3.3	Specimen Preparation, Conditioning and Timeline	6
3.4	Use of the Report.....	7
4.	Specimen Description.....	8
4.1	Supporting Construction.....	8
4.2	Specimens	9
5.	Specimens.....	11
5.1	Specimen 1	11
5.2	Specimen 2	12
5.3	Specimen 3	13
5.4	Specimen 4	14
5.5	Specimen 5	15
5.6	Specimen 6	16
5.7	Specimen 7	17
5.8	Specimen 8	18
5.9	Specimen 9	19
6.	Observations during the test.....	20

1.1 Document revision schedule

Revision #	Date	Description
1	10/07/2024	Issued to Client

1.2 Signatories

Report	Name	Signature	Date
Prepared by:	Alexey Kokorin		10/07/2024
Authorised by:	Andrew Bain (Authorized signatory)		10/07/2024



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 64mm Steel Stud wall with one layer of 13mm FR plasterboard each side.

Specimen #	Service	Actual Integrity (min)	Actual Insulation (min)	FRL
1	Coax Cable, Cat5e Cable, TPS Cable spaced by 40mm on fire side only	63 NF	63 NF	-/60/60
2	Coax Cable, Cat5e Cable, TPS Cable spaced by 40mm on non-fire side only	63 NF	63 NF	-/60/60
3	14mm OD Bundle of 5 Cat5e Cables on fire side only	63 NF	62	-/60/60
4	14mm OD Bundle of 5 Cat5e Cables on non-fire side only	63 NF	62	-/60/60
5	24mm×14mm Bundle of 5 TPS Cables on fire side only	63 NF	63 NF	-/60/60
6	24mm×14mm Bundle of 5 TPS Cables on non-fire side only	63 NF	63 NF	-/60/60
7	Brass Wing Back on fire side only	63 NF	63 NF	-/60/60
8	Brass Wing Back on non-fire side only	63 NF	54	-/60/30
9	25mm PEX Pipe on fire side only	63 NF	63 NF	-/60/60

NF – No failure during the test

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

Test conditions:

Conditions complied with the Standard.

3.2 Contact Details

Accredited Testing Laboratory

Fire TS Lab - 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:

Agnitek Pty Ltd

8 Clare St, Bayswater, VIC, 3153

Australia

Contact e-mail: info@agnitek.com.au

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 Laboratory in line with Client instructions. The Laboratory was not involved in sampling of the materials. The Laboratory checked materials during construction of the specimen. Specimens installed to fire side were capped on the exposed side only, specimens installed to non-fire side were capped within the wall only.

Testing date:

26/06/2024

Installation completion date:

19/06/2024

Termination of The Test:

The test was discontinued at 63 minutes.

3.4 Use of the Report

A regulatory information report was issued in addition to the full test report PF24068. This provides the minimum information required for regulatory compliance.

This report shall not be reproduced, except in full.

The specimen was an asymmetrical construction. The results of the test apply if exposed to fire as tested.

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	64mm Steel Stud with one layer of 13mm FR plasterboard each side
	Dimensions	Width / Height (W/H): 1200mm x 1200mm
		Wall Thickness (T): 90mm
		Cavity: 64mm

Materials		
1.2	Item / Product Name	Steel Track
	Dimensions	Width / Height (W/H): 64mm x 30mm
		Thickness (T): 0.55 BMT
Installation	Installed to top and bottom of refractory frame and between top and bottom tracks	
1.3	Item / Product Name	Steel Stud
	Dimensions	Width / Height (W/H): 64mm x 34mm
		Thickness (T): 0.50 BMT
Installation	Fixed to steel tracks, used to construct steel stud frame	
1.4	Item / Product Name	Fasteners Slotted Hex Head Tapper
	Dimensions	6.5mm x 32mm
	Installation	Used to fix steel track to refractory frame
1.6	Item / Product Name	Fire rated plasterboard
	Dimensions	Width / Height (W/H): 1200mm x 1200mm
		Thickness (T): 13mm
Installation	1 x layer installed to each face of steel stud frame	
1.7	Item / Product Name	16mm Self-Tapping Screw
	Dimensions	10g x 16mm
	Installation	Used to construct steel stud frame

1.8	Item / Product Name	41mm GIB Grabber Self Tapping Screw
	Dimensions	6g x 41mm
	Installation	Used to fix plasterboard, plywood to steel stud frame
1.9	Item / Product Name	18mm Plywood
	Dimensions	Width (W): 70mm
		Height (H): 400mm,100mm
		Thickness (T): 18mm
Installation	Installed to steel stud frame, behind wing back	

4.2 Specimens

Services		
2.1	Item / Product Name	Cat5e Cable
	Dimensions	Outer Diameter (OD): 5mm
2.2	Item / Product Name	Coax Cable
	Dimensions	Outer Diameter (OD): 6.5mm
2.3	Item / Product Name	2.5mm ² x 2C+E Flat TPS Cable
	Dimensions	Width / Height (W/H): 12mm x 5.5mm
2.4	Item / Product Name	Brass Wing Back
	Dimensions	Inner Diameter (ID): 15mm
		Outer Diameter (OD): 20.5mm
Thickness (T): 2.5mm		
2.5	Item / Product Name	PEX Pipe
	Dimensions	Inner Diameter (ID): 19mm
		Outer Diameter (OD): 25mm
Thickness (T): 3mm		

Sealants		
3.1	Item / Product Name	AGNI-Seal
	Dimensions	600mL Sausage

	Installation	Installed in annular space and used to make sealant cone
--	--------------	--

Fixings		
4.1	Item / Product Name	AGNI-Strap - Stainless Steel Ties
	Dimensions	Width / Height (W/H): 4.6mm x 200mm
	Installation	Used to fix AGNI-Sleeve around service
4.2	Item / Product Name	AGNI-Clip - Stainless Steel Clips
	Installation	Used to fix AGNI-Sleeve to separating element

Intumescent		
9.1	Item	AGNI-Sleeve
	Dimensions	Width (W): 50mm
		Thickness (T): 3.5mm
	Installation	Installed around service with no overlap

5. Specimens

5.1 Specimen 1

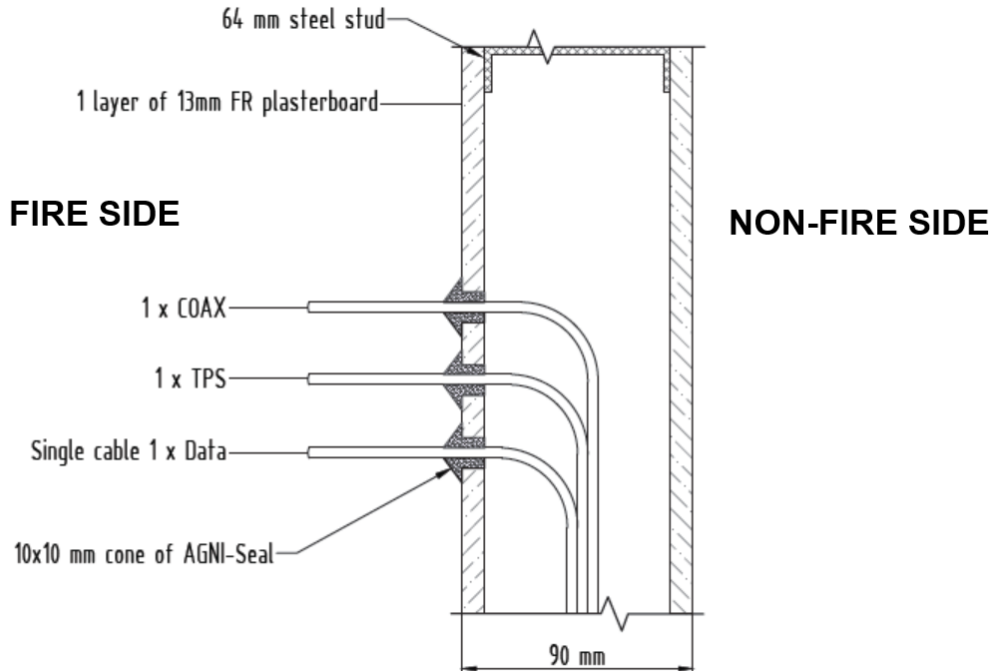


Figure 3 – Specimen 1

Service penetration details	
Service	Coax Cable, Cat5e Cable, TPS Cable spaced by 40mm
Aperture Diameter	Coax Cable:10mm, Cat5e Cable: 10mm, TPS Cable:19mm
Annular Spacing	Coax Cable: 2mm, Cat5e Cable: 2.5mm, TPS Cable:3-6.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed on fire side only
System description	13mm (nominal) deep seal in annular space and a 10mm × 10mm cone of sealant between cable and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	No failure at 63 minutes

5.2 Specimen 2

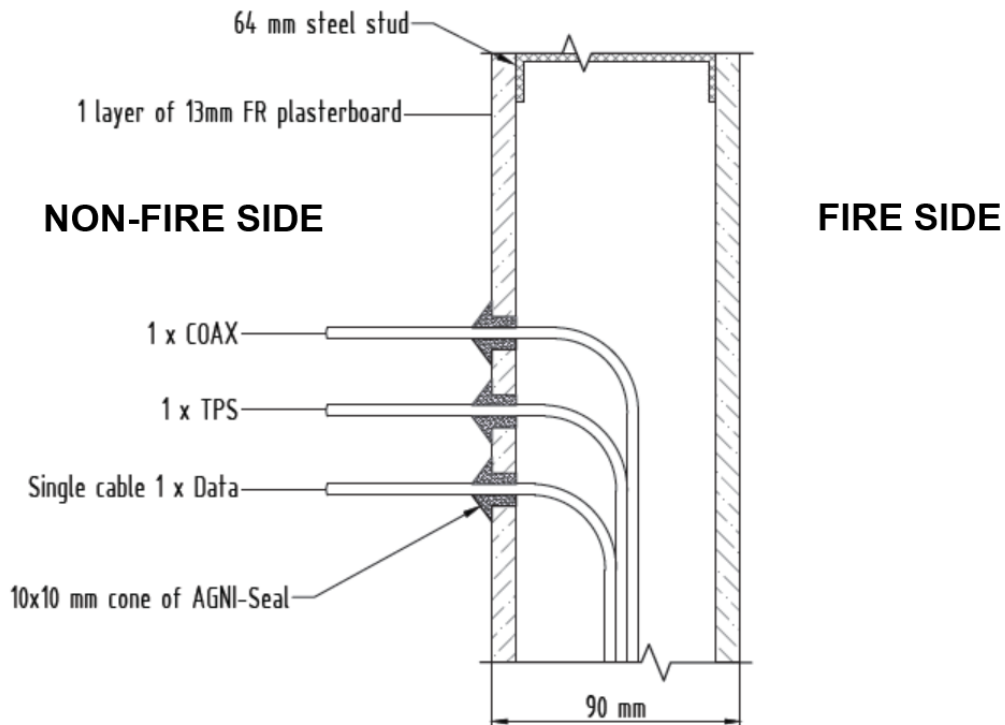


Figure 5 – Specimen 2

Service penetration details	
Service	Coax Cable, Cat5e Cable, TPS Cable spaced by 40mm
Service Support	Unistrut structure at 385mm
Aperture Diameter	Coax Cable:10mm, Cat5e Cable: 10mm, TPS Cable:19mm
Annular Spacing	Coax Cable: 2mm, Cat5e Cable: 2.5mm, TPS Cable:3-6.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed on non-fire side only
System description	13mm (nominal) deep seal in annular space and a 10mm × 10mm cone of sealant between cable and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	No failure at 63 minutes

5.3 Specimen 3

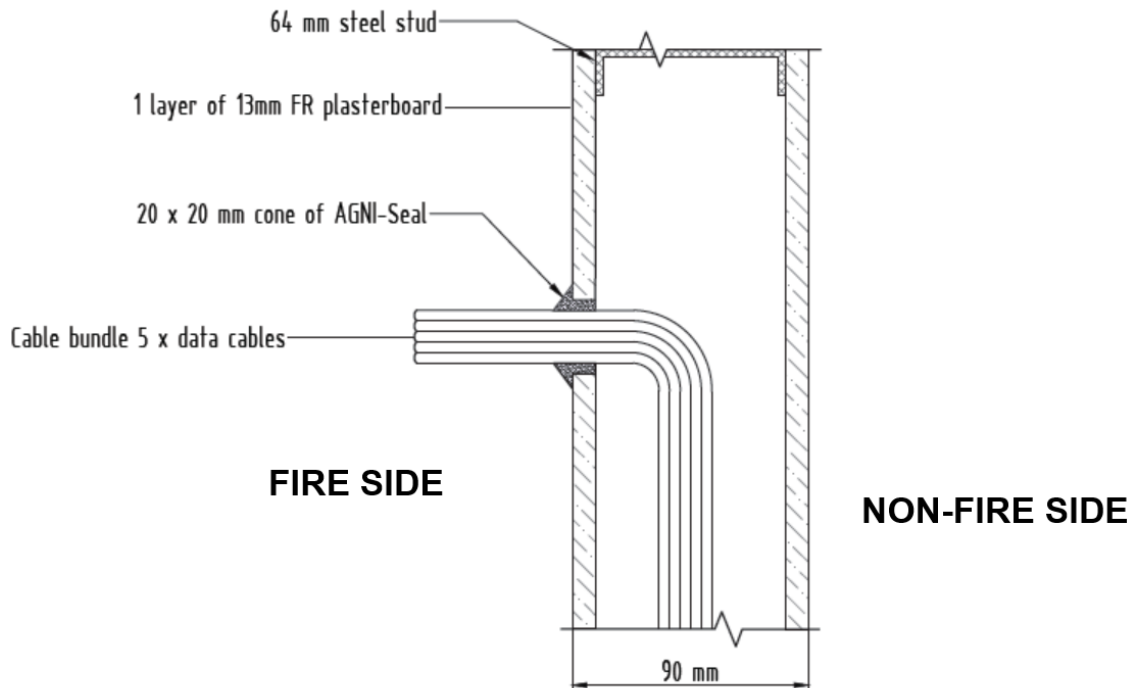


Figure 7 – Specimen 3

Service penetration details	
Service	14mm OD Bundle of 5 Cat5e Cables
Aperture Diameter	22mm
Annular Spacing	Min: 3mm, Max: 6mm

Local Fire-stopping system	
Application	Asymmetrical – installed on fire side only
System description	13mm (nominal) deep seal in annular space and a 20mm x 20mm cone of sealant between cable bundle and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	62 minutes

5.4 Specimen 4

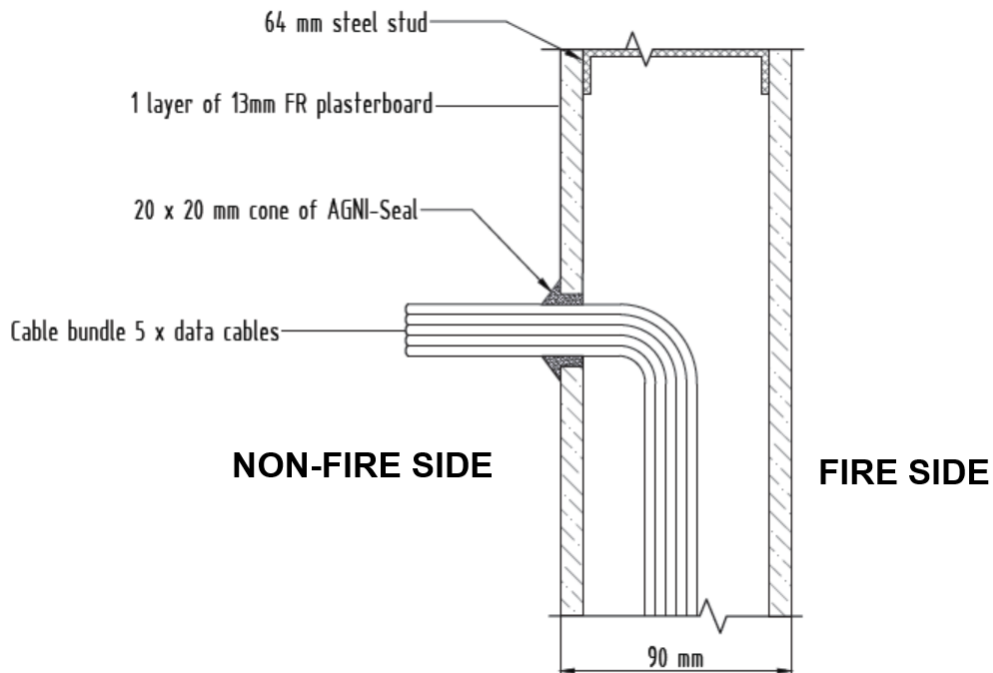


Figure 9 – Specimen 4

Service penetration details	
Service	14mm OD Bundle of 5 Cat5e Cables
Service Support	Unistrut structure at 385mm
Aperture Diameter	22mm
Annular Spacing	Min: 3mm, Max: 6mm

Local Fire-stopping system	
Application	Asymmetrical – installed on non-fire side only
System description	13mm (nominal) deep seal in annular space and a 20mm x 20mm cone of sealant between cable bundle and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	62 minutes

5.5 Specimen 5

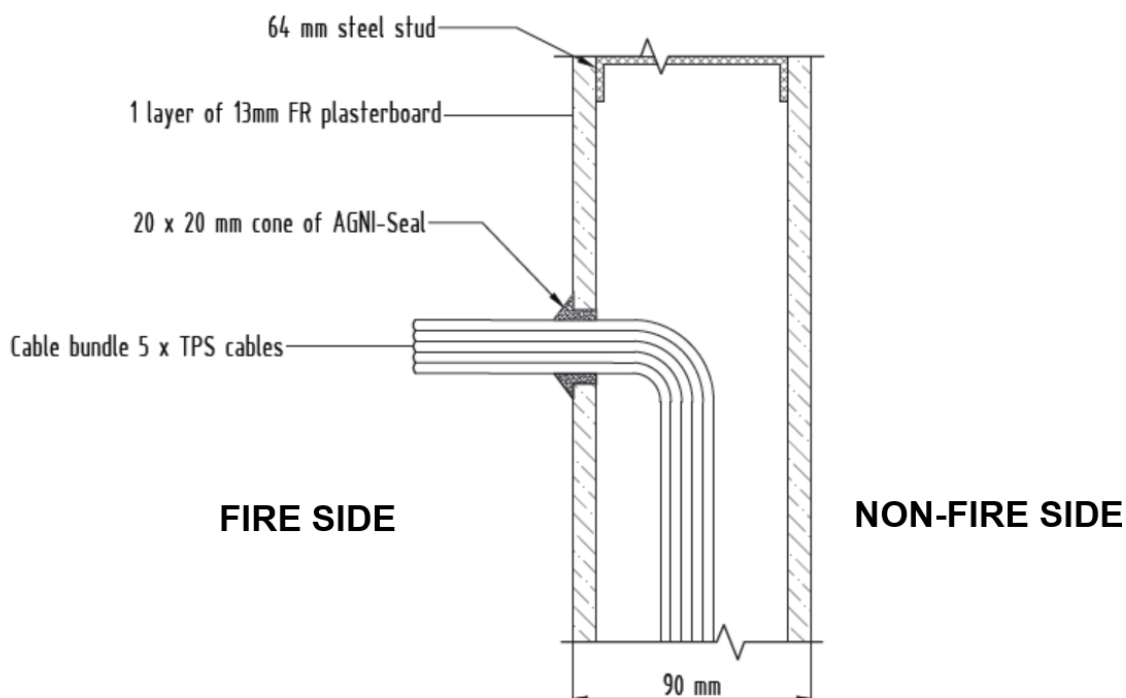


Figure 11 – Specimen 5

Service penetration details	
Service	24mm×14mm Bundle of 5 TPS Cables
Aperture Diameter	35mm
Annular Spacing	Min: 5mm, Max: 10mm

Local Fire-stopping system	
Application	Asymmetrical – installed on fire side only
System description	13mm (nominal) deep seal in annular space and a 20mm × 20mm cone of sealant between cable bundle and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	No failure at 63 minutes

5.6 Specimen 6

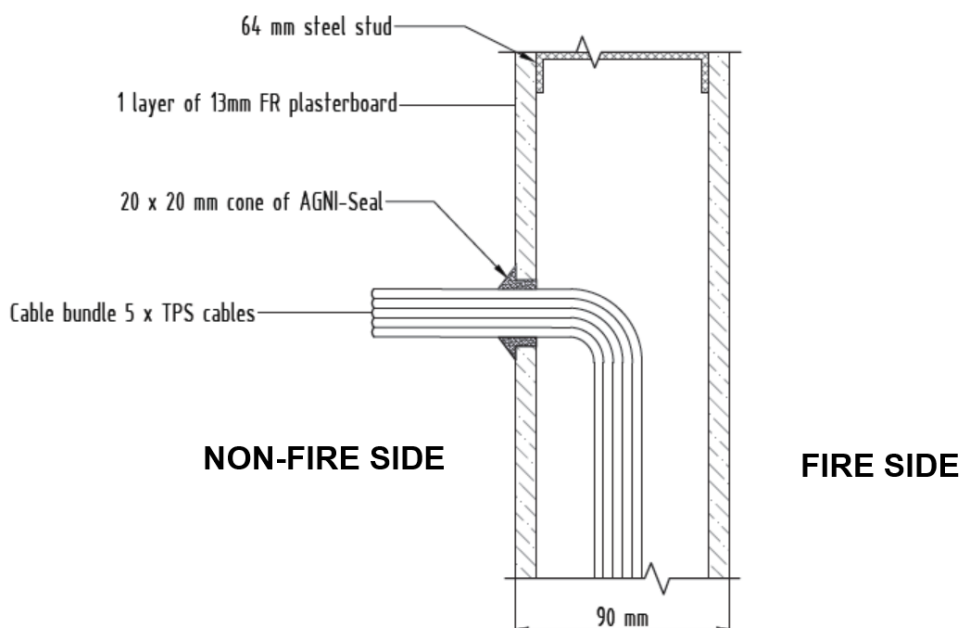


Figure 13 – Specimen 6

Service penetration details	
Service	24mm×14mm Bundle of 5 TPS Cables
Service Support	Unistrut structure at 385mm
Aperture Diameter	35mm
Annular Spacing	Min: 5mm, Max: 10mm

Local Fire-stopping system	
Application	Asymmetrical – installed on non-fire side only
System description	13mm (nominal) deep seal in annular space and a 20mm × 20mm cone of sealant between cable bundle and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	No failure at 63 minutes

5.7 Specimen 7

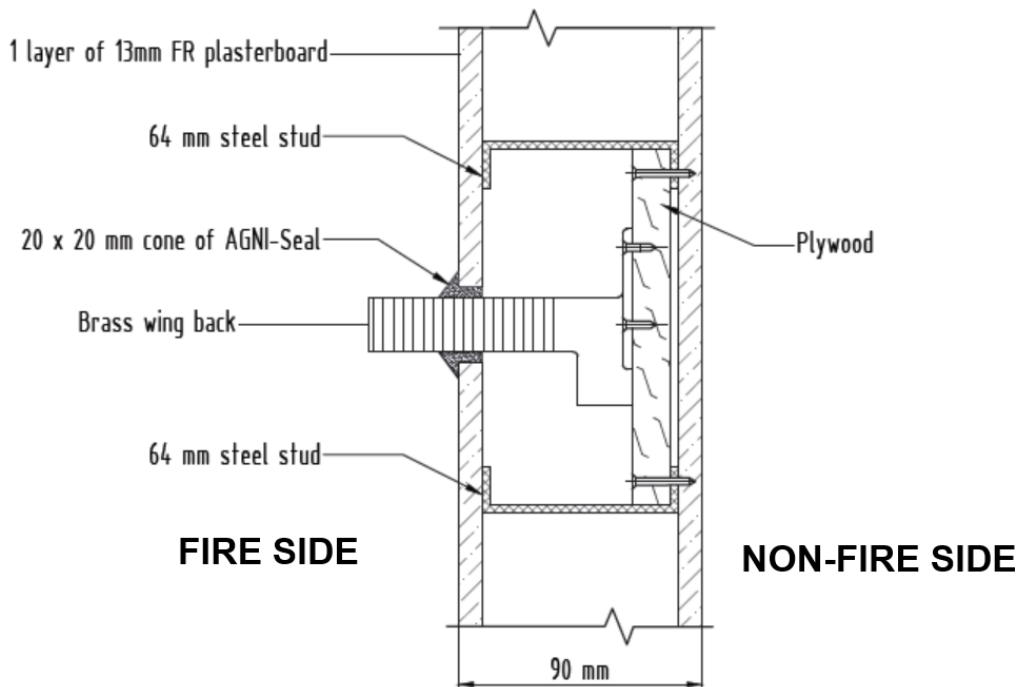


Figure 15 – Specimen 7

Service penetration details	
Service	Brass Wing Back
Aperture Diameter	29mm
Annular Spacing	Min: 3mm, Max: 5.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed on fire side only
System description	13mm (nominal) deep seal in annular space and a 10mm × 10mm cone of sealant between wing back and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	No failure at 63 minutes

5.8 Specimen 8

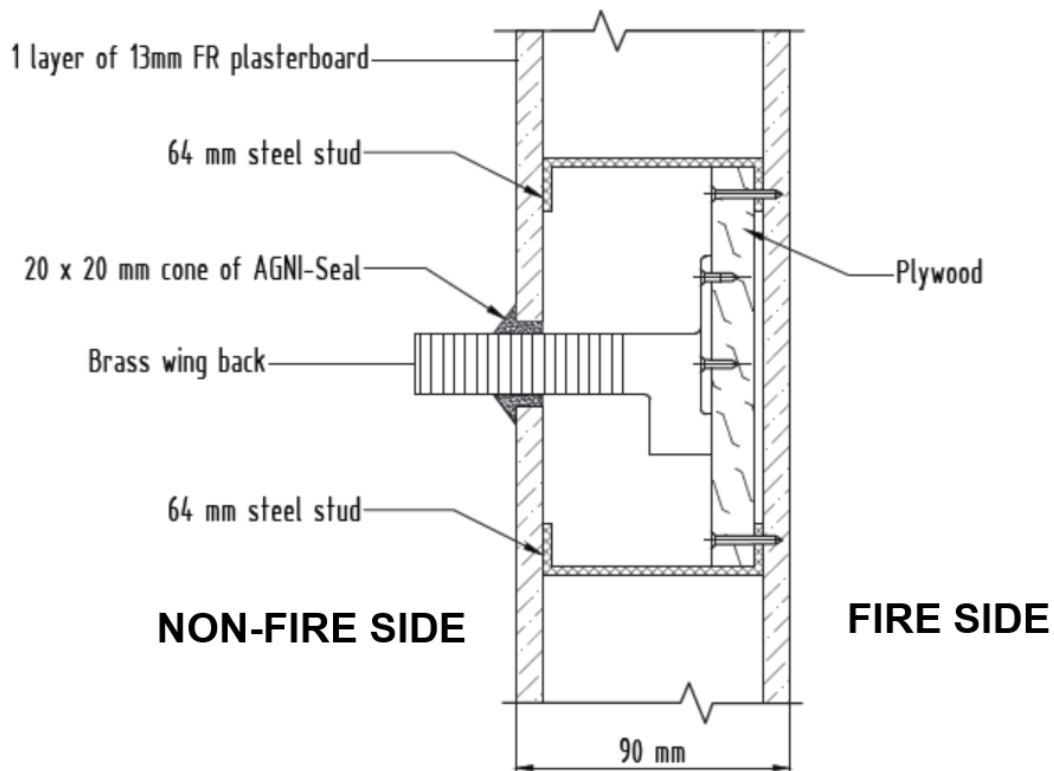


Figure 17 – Specimen 8

Service penetration details	
Service	Brass Wing Back
Aperture Diameter	29mm
Annular Spacing	Min: 3mm, Max: 5.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed on non-fire side only
System description	13mm (nominal) deep seal in annular space and a 10mm x 10mm cone of sealant between wing back and separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	54 minutes

5.9 Specimen 9

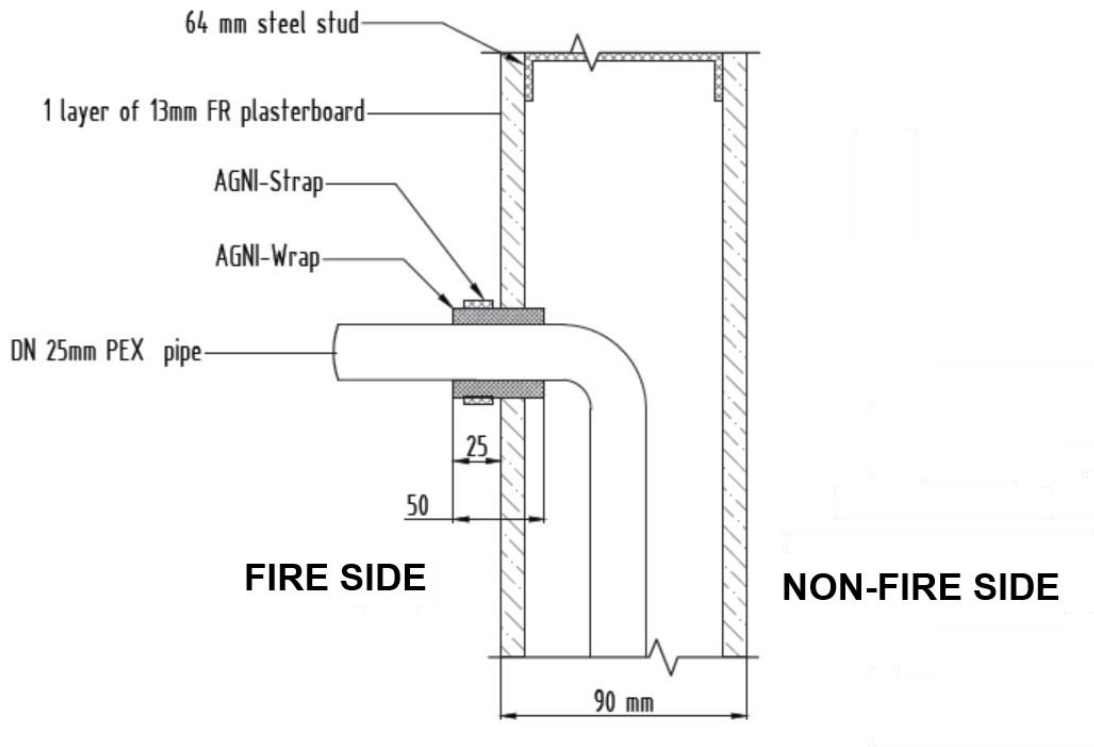


Figure 19 – Specimen 9

Service penetration details	
Service	25mm PEX Pipe
Aperture Diameter	35mm
Annular Spacing	5mm

Local Fire-stopping system	
Application	Asymmetrical – installed on fire side only
System description	50mm AGNI-Sleeve secured around pipe with no overlap using a cable tie, inserted 30mm into separating element.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 63 minutes
Insulation	No failure at 63 minutes

6. Observations during the test

Time min	Test face	SP#	OBSERVATIONS/REMARKS
			No significant observations during the test
63			Test Discontinued

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