

Regulatory Information Report

RIRF25005

**Fire resistance test for penetration through a
vertical separating element**

Client:	Agnitek Pty Ltd
Test method:	AS1530.4-2014
Report Date:	07/07/2025
Test number:	PF25005

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1.1 Document revision schedule

Revision #	Date	Description
1	23/04/2025	Issued to Client
2	07/07/2025	Page 14 - Typographical error corrected

1.2 Signatories

Report	Name	Signature	Date
Prepared by:	Alexey Kokorin		07/07/2025
Authorised by:	Andrew Bain (Authorized signatory)		07/07/2025



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

2. Report Summary

Service penetrations were tested passing through a 64mm steel stud wall lined with two layers of 13mm fire rated plasterboard on each side.

Specimen #	Service	Actual Integrity (min)	Actual Insulation (min)	FRL
1	3 x AGNI-Boxes (horizontally joined)	123NF	123NF	-/120/120
2	2 x AGNI-Boxes (vertically joined)	123NF	123NF	-/120/120
3	25mm Conduit Pipe	123NF	123NF	-/120/120
4	25mm Conduit Pipe + 8 x 4.8mm Optic Cables	123NF	123NF	-/120/120
5	25mm Flexible Conduit + 6 x 4.8mm Optic Cables	123NF	123NF	-/120/120
6	9.6mm Optic Cable	123NF	123NF	-/120/120

NF – No Failure

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

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:

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. Services were capped on fire side only.

Testing date:

07/03/2025

Installation completion date:

11/02/2025

Termination of The Test:

The test was discontinued at 123 minutes.

3.4 Use of the Report

This report shall not be reproduced, except in full.

A regulatory information report was issued in addition to the full test report PF25005. This provides the minimum information required for regulatory compliance.

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 (nominal) steel stud frame with two layers of 13mm FR Plasterboard fitted to each side of the frame
	Dimensions	Width x Height: 1200mm x 1200mm

Materials		
1.3	Item	Steel Stud 0.50bmt
	Dimensions	Width x Height: 64mm x 1200mm
	Installation	Used to construct studs and nogs in steel frame
1.4	Item	Steel Track 0.50bmt
	Dimensions	Width x Height: 64mm x 1200mm
	Installation	Used to construct top and bottom plates
1.5	Item	Self-Tapping Screw
	Dimensions	10g x 16mm
	Installation	Used to construct steel stud frame
1.6	Item	FR Plasterboard
	Dimensions	Width x Height: 1200mm x 1200mm
		Thickness: 13mm
	Installation	2 layers applied to each face of separating element
1.7	Item	Self Tapping Screw
	Dimensions	41mm
	Installation	Used to secure Plasterboard to frame
1.8	Item	Plaster
	Dimensions	15L Pail
	Installation	Used to cover screw heads on plasterboard
1.10	Item / Product Name	AGNI-Seal
	Installation	Used to seal around edge of separating element

4.2 Specimens

Services		
2.1	Item	AGNI-Box
	Dimensions	Width x Height: 300mm x 151mm
	Construction	The AGNI-Box is constructed using 0.9bmt steel measuring 300mm (width) x 151mm (height) x 200mm (depth). A 50mm recessed steel lip surrounds all four side of both faces of the AGNI-Box and holds two layers of 3.5mm intumescent material that are cut to size. The recessed space was fitted with 50mm thick foam to the both faces of the AGNI-Box.
2.2	Item	uPVC Electrical Conduit 25mm
	Dimensions	Diameter (OD): 26.9mm
		Diameter (ID): 23.0mm
		Wall Thickness (T): 1.95mm
2.3	Item	Optical Cable
	Cable	Overall Diameter: 4.8mm
		Sheath Thickness: 1.3mm
	Core	Overall Diameter: 2.15mm
		Conductor Diameter: 0.94mm
		Conductor Material: Optic Fibre
		Insulation Thickness: 0.5mm
2.4	Item	Flexible Conduit – 25mm
	Dimensions	Diameter (OD): 25.0mm
		Diameter (ID): 19.5mm
		Wall Thickness (T): 2.75mm
2.5	Item	Optic cable
	Cable	Overall Diameter: 9.64mm
		Sheath Material: LSZH
		Sheath Thickness: 1.66mm
	Core	Overall Diameter: 1.9mm
		Conductor Diameter: 0.2mm

		Conductor Material: Optic Fibre
		Insulation Material: PBT
		Insulation Thickness: 0.4mm

Sealants

3.1	Item / Product Name	AGNI-Seal
	Dimensions	600mL sausage
3.2	Item / Product Name	AGNI-Black
	Dimensions	310mL Cartridge

Intumescent

4.1	Item	AGNI-Wrap 50
	Dimensions	Width: 50mm Thickness: 3.5mm

Other

5.1	Item	Steel Stud 0.50bmt
	Dimensions	Width x Height: 64mm x 1200mm
	Installation	Used to construct steel support frame for AGNI-Boxes
5.2	Item	Self-Tapping Screw
	Dimensions	10g x 16mm
	Installation	Used to construct steel support frame

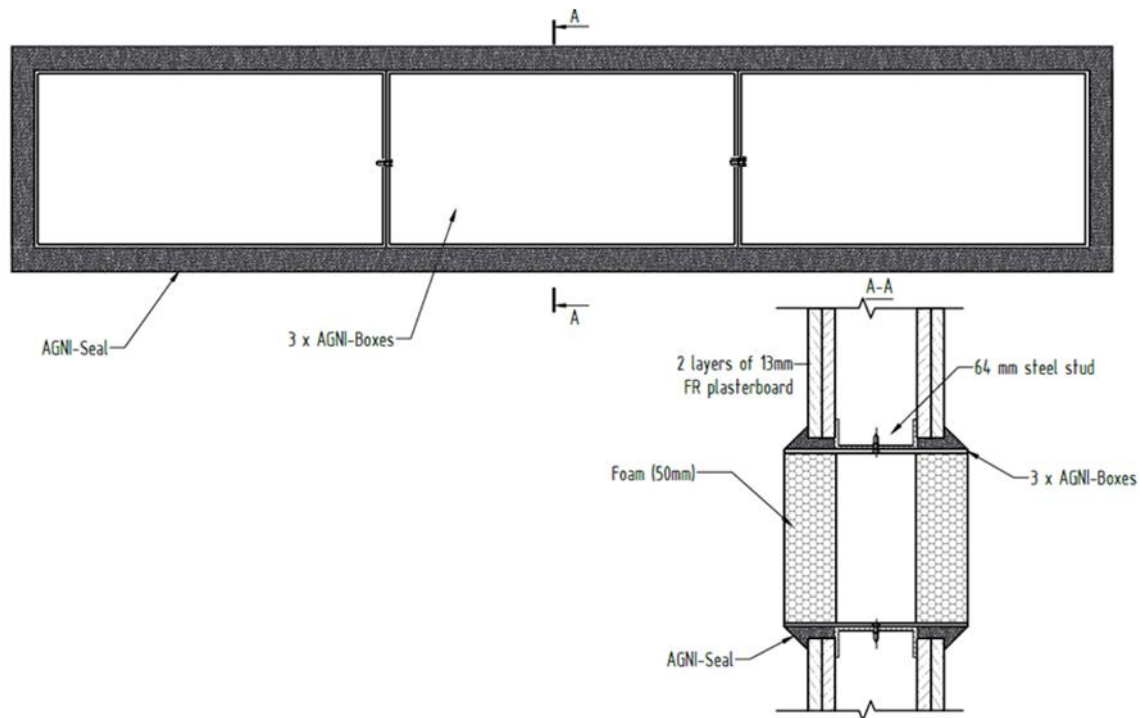
5. Test Results

5.1 Observations during the test

Time min	Test face	SP#	OBSERVATIONS/REMARKS
61	U	1	Box A (left most box) intumescent pushed foam face out of specimen
69	U	1	Box B (centre box) intumescent pushed foam face out of specimen
70	U	1	Box C (right most box) intumescent pushed foam face out of specimen
76	U	2	Box A (top box) intumescent pushed foam face out of specimen
81	U	2	Box B (bottom box) intumescent pushed foam face out of specimen
123			TEST DISCONTINUED

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

5.2 Specimen 1



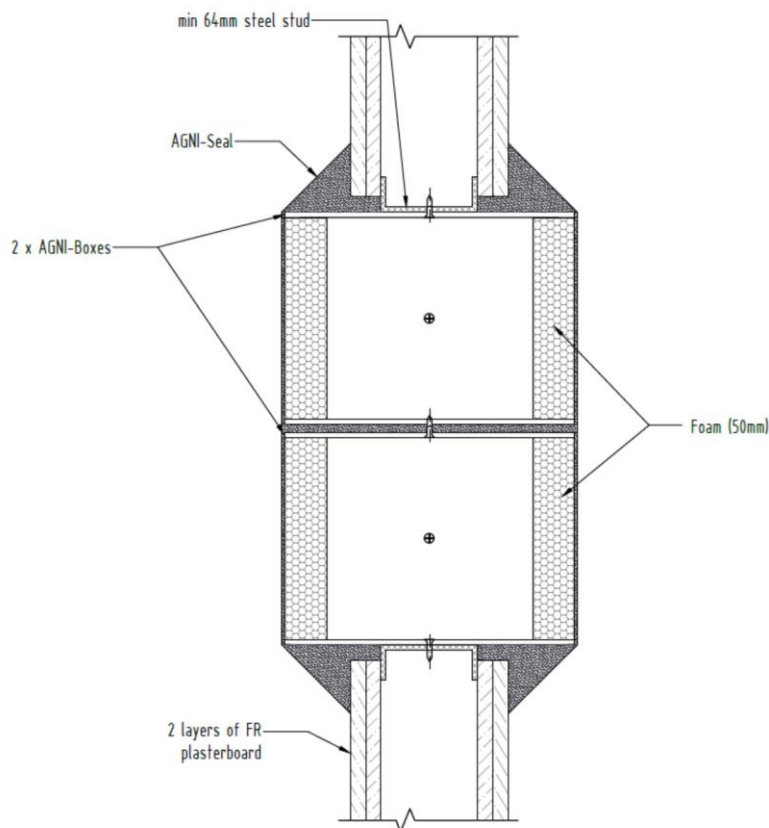
Service penetration details	
Service	3 x AGNI-Boxes (horizontally joined)
Aperture Size	Width x Height: 910mm x 155mm
Annular Spacing	Min: 1.0mm, Max: 7.0mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	AGNI-Seal, bolts, nuts, screws
Procedure	<ol style="list-style-type: none"> 1. 10mm bead of AGNI-Seal applied to joining surfaces around the perimeter to seal any gaps between the AGNI-Boxes. 2. AGNI-Boxes secured together horizontally using bolts and nuts through pre-punched holes in the centre of adjoining faces. 3. AGNI-Boxes module inserted into the steel stud frame and secured using screws at the top and bottom of each box and sides of outer AGNI-Boxes. Screws were fixed through existing holes in the centre of each surface. 4. 50mm x 50mm AGNI-Seal sealant cone applied around the perimeter of the three AGNI-Boxes.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 123 minutes
Insulation	No failure at 123 minutes

5.3 Specimen 2



Service penetration details	
Service	2 x AGNI-Boxes (vertically joined)
Aperture Size	Width x Height: 310mm x 310mm
Annular Spacing	Min: 1.0mm, Max: 9.0mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	AGNI-Seal, bolts, nuts, screws
Procedure	<ol style="list-style-type: none"> 1. 10mm bead of AGNI-Seal was applied to joining surfaces around the perimeter to seal any gaps between the AGNI-Boxes. 2. AGNI-Boxes secured together vertically using bolt and nut through pre-punched holes in the centre of adjoining faces. 3. AGNI-Boxes module inserted into the steel stud frame and secured using screws at the top and bottom of each box and sides of outer AGNI-Boxes. Screws were fixed through existing holes in the centre of each surface.

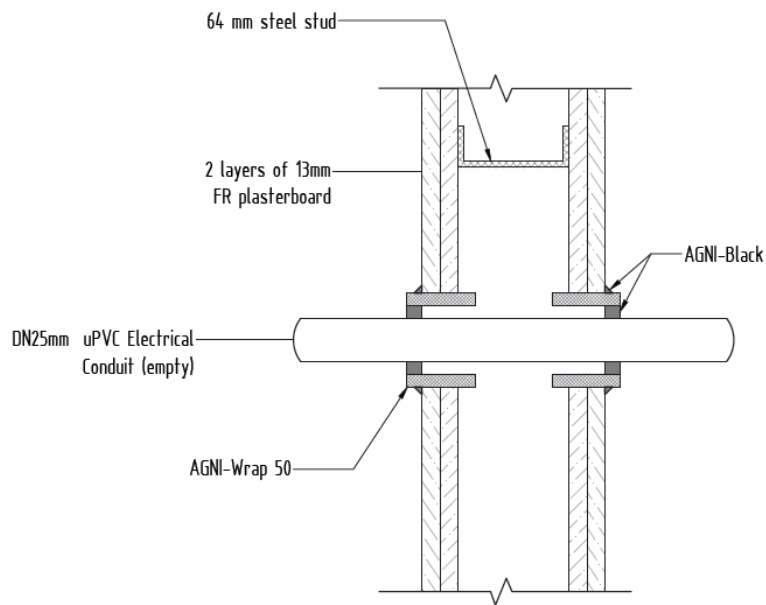
	4. 50mm x 50mm AGNI-Seal sealant cone applied around the perimeter of two AGNI-Boxes.
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Test results

Structural adequacy	Not applicable
Integrity	No failure at 123 minutes
Insulation	No failure at 123 minutes



5.4 Specimen 3



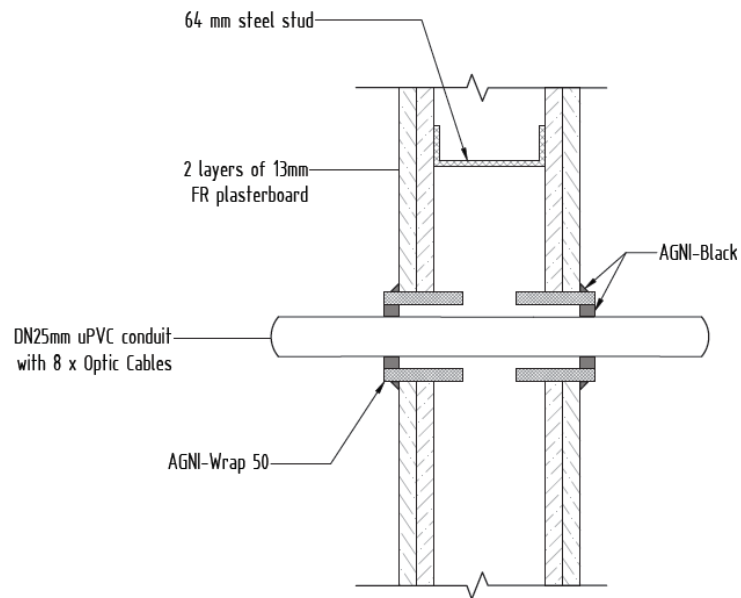
Service penetration details	
Service	uPVC Electrical Conduit 25mm (empty)
Aperture Size	45.8mm
Annular Spacing	Min: 9.0mm, Max: 11.8mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	AGNI-Wrap 50, AGNI-Black
Procedure	<ol style="list-style-type: none"> 1. AGNI-Wrap 50 cut to fit one revolution of the aperture. 2. AGNI-Wrap wrapped around the service and inserted into the aperture, finishing 10mm past the separating element. 3. AGNI-Black applied into the gap between the AGNI-Wrap and the pipe 10mm (nominal) deep. 4. 5mm (nominal) AGNI-Black applied to seal between the separating element and the AGNI-Wrap.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 123 minutes
Insulation	No failure at 123 minutes

5.5 Specimen 4



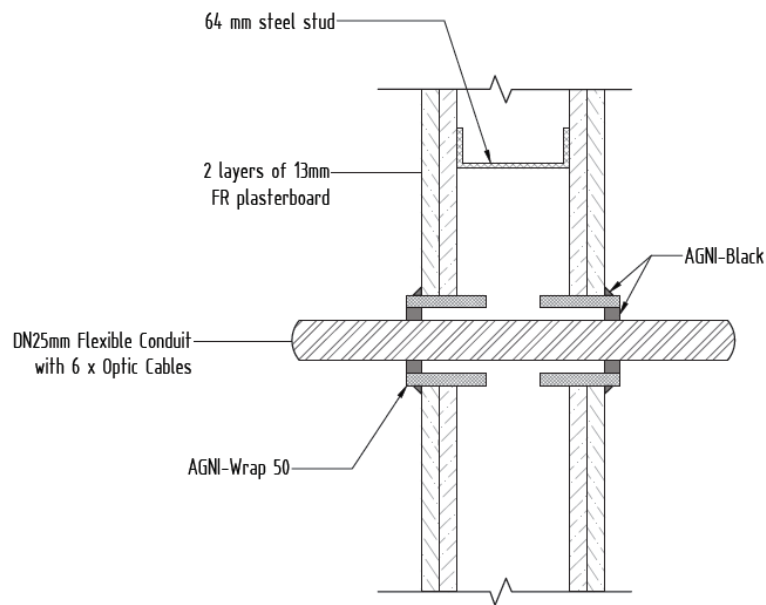
Service penetration details	
Service	uPVC Electrical Conduit 25mm with 8 x 4.8mm Optic Cables
Aperture Size	45.7mm
Annular Spacing	Min: 7.4mm, Max: 13.3mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	AGNI-Wrap 50, AGNI-Black
Procedure	<ol style="list-style-type: none"> 1. AGNI-Wrap 50 cut to fit one revolution of the aperture. 2. AGNI-Wrap wrapped around the service and inserted into the aperture, finishing 10mm past the separating element. 3. AGNI-Black applied into the gap between the AGNI-Wrap and the pipe 10mm (nominal) deep. 4. 5mm (nominal) AGNI-Black applied to seal between the separating element and the AGNI-Wrap.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 123 minutes
Insulation	No failure at 123 minutes

5.6 Specimen 5



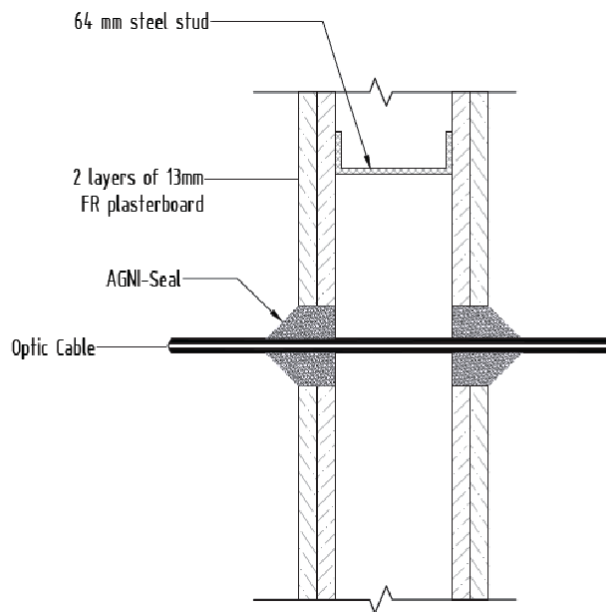
Service penetration details	
Service	uPVC Flexible Conduit – 25mm with 6 x 4.8mm Optic Cables
Aperture Size	45.8mm
Annular Spacing	Min: 6.7mm, Max: 19.1mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	AGNI-Wrap 50, AGNI-Black
Procedure	<ol style="list-style-type: none"> 1. AGNI-Wrap 50 cut to fit one revolution of the aperture. 2. AGNI-Wrap wrapped around the service and inserted into the aperture, finishing 10mm past the separating element. 3. AGNI-Black applied into the gap between the AGNI-Wrap and the pipe 10mm (nominal) deep. 4. 5mm (nominal) AGNI-Black applied to seal between the separating element and the AGNI-Wrap.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 123 minutes
Insulation	No failure at 123 minutes

5.7 Specimen 6



Service penetration details	
Service	9.6mm Optic Cable
Service Support	Exposed Face: 250mm Unexposed Face: 520mm and 1610mm
Aperture Size	16.7mm
Annular Spacing	Min: 2.8mm, Max: 4.2mm

Local Fire-stopping system	
Application	Symmetrical – applied to both faces of the separating element
Products	AGNI-Seal
Procedure	<ol style="list-style-type: none"> 1. AGNI-Seal applied into the annular gap to depth of the lining, 26mm (nominal) deep. 2. 20mm x 20mm AGNI-Seal sealant cone applied around the cable.

Test results

Structural adequacy	Not applicable
Integrity	No failure at 123 minutes
Insulation	No failure at 123 minutes

6. Photos

6.1 Photos before the test



Figure 1 - Unexposed face prior to test commencement



Figure 2 - Exposed face prior to test commencement