

Regulatory Information Report

RIRF24007

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

Client: Agnitek Pty Ltd

Test method: AS1530.4-2014

Report Date: 29/06/2024

Test number: PF24007





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1.1 Document Revision Schedule

Revision #	Date	Description
1	29/06/2024	Issued to Client

1.2 Signatories

Report	Name	Signature	Date
Prepared by:	Alexey Kokorin		29/06/2024
Authorised by:	Andrew Bain (Authorized signatory)		29/06/2024



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

2. Report Summary

Control joints were tested. Four of these control joints were constructed using 64mm Rondo studs and one layer of 13mm thick fire rated Plasterboard fixed to either side of the studs. AGNI-Seal was applied to fill the joints, with various widths and thicknesses, flush with the external surface of the plasterboard.

One control joint was situated at the in horizontal direction and comprised of 13mm thick FR Plasterboard and a 120mm thick concrete slab. 64mm Deflection Track was used as backing. AGNI-Seal was applied on flange surface of the track, flush with surface of the plasterboard.

Specimen	Joint description	Integrity	Insulation	FRL
A	10mm x10mm vertical joint (AGNI-Seal) Both fire and non-fire sides	78NF	70	-/60/60
C	30mm x13mm vertical joint (AGNI-Seal) Both fire and non-fire sides	78NF	72	-/60/60
D	40mm x20mm vertical joint (AGNI-Seal) Both fire and non-fire sides	78NF	77	-/60/60
E	40mm x13mm horizontal joint (AGNI-Seal) Both fire and non-fire sides	78NF	74	-/60/60

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:

There were 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 Laboratory in line with Client instructions. The Laboratory was not involved in sampling of the materials. Laboratory checked materials during construction of the specimen.

Testing date:

08/04/2024

Installation completion date:

06/03/2024

Termination of The Test:

The test was discontinued at 78 minutes.

3.4 Use of Reports

A regulatory information report was issued in addition to the full test report PF24007. This provides the minimum information required for regulatory compliance.

This report shall not be reproduced, except in full.

The specimen was a symmetrical construction.

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

Support Construction		
1.1	Item	Steel studs with 13mm FR Plasterboard at each side
	Dimensions	Width / Length (W/L): 1200mm x 1010mm (Nominal)
		Overall Thickness (T): 90mm
		Cavity: 64mm
1.2	Item	120mm Concrete Slab installed at the top of refractory frame
	Dimensions	Width (W):385mm
		Thickness (T): 120mm
		Length (L): 1200mm

Materials		
1.2	Item	64mm Steel Deflection Track
	Dimensions	Height / Length (H/L): 51mm x 1200mm
		Thickness (T): 0.75BMT
	Installation	Used to construct separating element
1.3	Item	64mm Steel Stud
	Dimensions	Flange Height / Length (FH/L): 33mm x 1050mm
		Thickness (T): 0.5BMT
	Installation	Used to construct separating element
1.4	Item	64mm Steel Track
	Dimensions	Flange Height / Length (FH/L): 30mm x 1200mm
		Thickness (T): 0.55BMT
	Installation	Used to construct separating element
1.5	Item	Metal Pin Anchor 6.5 x 38mm
	Dimensions	Diameter (D): 6.5mm
		Length (L): 38mm
	Installation	Fix the tracks on the refractory frame

1.6	Item	Self-Tapping Screw
	Dimensions	Diameter (D): 4mm
		Length (L): 16.5mm
Installation	Fix the studs and tracks together	
1.7	Item	Self-Tapping Drywall Screw 6 x 25mm
	Dimensions	Diameter (D): 6mm
		Length (L): 25mm
Installation	Fix the Fire Rated Plasterboard on the steel frame	

4.2 Specimens

Backing		
2.1	Item	PEF Rod
	Dimensions	Diameter (D): 20mm
	Installation	Installed to joint, allowing 10mm depth for AGNI-Seal
2.2	Item	PEF Rod
	Dimensions	Diameter (D): 25mm
	Installation	Installed to joint, allowing 10mm depth for AGNI-Seal
2.3	Item	PEF Rod
	Dimensions	Diameter (D): 50mm
	Installation	Trimmed and installed to joint, allowing 15mm depth for AGNI-Seal at each side
2.4	Item	PEF Rod
	Dimensions	Diameter (D): 50mm
	Installation	Trimmed and installed to joint, allowing 20mm depth for AGNI-Seal
2.5	Item	64mm Steel Deflection Track
	Dimensions	Height / Length (H/L): 51mm x 1200mm
		Thickness (T): 0.75BMT
Installation	Installed at the underside of concrete slab, allowing 13mm depth for AGNI-Seal.	

Sealants

3.1	Item	AGNI-Seal (Fire-rated Acrylic sealant)
	Dimensions	Capacity: 310ml tube
	Installation	Filled in the joint with specified depth and width

5. Specimens

5.1 Specimen A

Joint Description	
Dimension	Width 10mm (nominal)
Backing Rod	20mm Diameter White PEF Road
Sealant Depth	10mm
Sealant Width	10mm

Local fire-stopping system	
Application	Symmetrical - both faces of separating element
System description	Install backing rod into the joint, allowing 10mm depth for sealant. Applying and firmly pressing AGNI-Seal in the joint and on top of backing rod, make the surface of sealant smooth and ensure that it is flush with plasterboard surface.

Test results

Structural adequacy	Not applicable
Integrity	No Failure at 78 minutes
Insulation	Failure at 70 minutes

5.2 Specimen C

Joint Description	
Dimension	Width 30mm (nominal)
Backing Rod	50mm Diameter White PEF Road
Sealant Depth	13mm
Sealant Width	30mm

Local fire-stopping system	
Application	Symmetrical - both faces of separating element
System description	Install backing rod into the joint, allowing 13mm depth for sealant. Applying and firmly pressing AGNI-Seal in the joint and on top of backing rod, make the surface of sealant smooth and ensure that it is flush with plasterboard surface.

Test results

Structural adequacy	Not applicable
Integrity	No Failure at 78 minutes
Insulation	Failure at 72 minutes

5.3 Specimen D

Joint Description	
Dimension	Width 40mm (nominal)
Backing Rod	50mm PEF Road
Sealant Depth	20mm
Sealant Width	40mm

Local fire-stopping system	
Application	Symmetrical - both faces of separating element
System description	Install backing rod into the joint, allowing 20mm depth for sealant. Applying and firmly pressing AGNI-Seal in the joint and on top of backing rod, make the surface of sealant smooth and ensure that it is flush with plasterboard surface.

Test results

Structural adequacy	Not applicable
Integrity	No Failure at 78 minutes
Insulation	Failure at 77 minutes

5.4 Specimen E

Joint Description	
Dimension	Width / Depth (W/D): 40mm x 90mm (nominal)
Backing Rod	N/A (applied over head track)
Sealant Depth	13mm
Sealant Width	40mm

Local fire-stopping system	
Application	Symmetrical - both faces of separating element
System description	Apply 13mm deep sealant. Applying and firmly pressing AGNI-Seal in the joint and on top of Rondo Track, make the surface of sealant smooth and ensure that it is flush with plasterboard surface.

Test results

Structural adequacy	Not applicable
Integrity	No Failure at 78 minutes
Insulation	Failure at 74 minutes

6. Observations during the test

Time min	Test face	SP#	OBSERVATIONS/REMARKS
			No significant behaviour to report
78			Test Discontinued

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