

# Regulatory Information Report

**RIRF24070**

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

Client: Agnitek Pty Ltd

Test method: AS1530.4-2014

Report Date: 12/07/2024

Test number: PF24070



# 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 .....	8
5.	Test Results.....	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	12/07/2024	Issued to Client

## 1.2 Signatories

Report	Name	Signature	Date
Prepared by:	Alexey Kokorin		12/07/2024
Authorised by:	Andrew Bain (Authorized signatory)		12/07/2024



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

## 2. Report Summary

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Service penetration was tested passing through a 120mm concrete slab

Specimen #	Service	Actual Integrity (min)	Actual Insulation (min)	FRL
1	40mm green SDR 11 S PPR pipe	122 NF	122 NF	-/120/120
2	90mm green SDR 9 MF PPR pipe	122 NF	122 NF	-/120/120
3	90mm green SDR 11 S PPR pipe	122 NF	122 NF	-/120/120
4	DN65 PVC-U DWV Pipe	122 NF	122 NF	-/120/120
5	DN100 PVC-U DWV Pipe	122 NF	122 NF	-/120/120
6	DN80 PVC-U DWV Pipe	122 NF	122 NF	-/120/120
7	DN50 PVC-U DWV Pipe	122 NF	122 NF	-/120/120
8	DN32 PVC-U DWV Pipe	122 NF	122 NF	-/120/120
9	DN40 PVC-U DWV Pipe	122 NF	122 NF	-/120/120

**NF – No failure during the test**

## 3. General Information

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### 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](mailto:tests@firelab.co.nz)

**Client/Applicant:**

Agnitek Pty Ltd

8 Clare St, Bayswater, VIC, 3153

Australia

Contact e-mail: [info@agnitek.com.au](mailto: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. All specimens were capped from fire side only.

#### **Testing date:**

27/06/2024

#### **Installation completion date:**

18/06/2024

#### **Termination of The Test:**

The test was discontinued at 122 minutes.

### 3.4 Use of the Report

A regulatory information report was issued in addition to the full test report PF24070. 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	120mm concrete slab
	Dimensions	Width / Height (W/H): 1400mm x 1400mm
		Wall Thickness (T): 120mm

### 4.2 Specimens

Services		
2.1	Item / Product Name	DN40 PVC-U DWV Pipe
	Dimensions	Inner Diameter (ID): 38mm
		Outer Diameter (OD): 43mm
		Thickness (T): 2.5mm
2.2	Item / Product Name	DN50 PVC-U DWV Pipe
	Dimensions	Inner Diameter (ID): 51mm
		Outer Diameter (OD): 56mm
		Thickness (T): 2.5mm
2.3	Item / Product Name	DN65 PVC-U DWV Pipe
	Dimensions	Inner Diameter (ID): 63mm
		Outer Diameter (OD): 69mm
		Thickness (T): 3mm
2.4	Item / Product Name	DN80 PVC-U DWV Pipe
	Dimensions	Inner Diameter (ID): 76mm
		Outer Diameter (OD): 82.5mm
		Thickness (T): 3mm
2.5	Item / Product Name	DN100 PVC-U DWV Pipe
	Dimensions	Inner Diameter (ID): 104mm
		Outer Diameter (OD): 110mm
		Thickness (T): 3mm



2.6	Item / Product Name	DN32 PVC-U DWV Pipe
	Dimensions	Inner Diameter (ID): 32mm
		Outer Diameter (OD): 36mm
		Thickness (T): 2mm
2.7	Item / Product Name	90mm SDR 11 S PPR Pipe
	Dimensions	Inner Diameter (ID): 72mm
		Outer Diameter (OD): 90mm
		Thickness (T): 9mm
2.8	Item / Product Name	90mm SDR 9 MF RP Pipe
	Dimensions	Inner Diameter (ID): 68mm
		Outer Diameter (OD): 90mm
		Thickness (T): 11mm
2.9	Item / Product Name	40mm SDR 11 S PPR Pipe
	Dimensions	Inner Diameter (ID): 32mm
		Outer Diameter (OD): 40mm
		Thickness (T): 4mm

### Sealants

3.1	Item / Product Name	AGNI-Seal
	Dimensions	600mL Sausage
	Installation	Sealed gaps from exposed side

### Fixings

4.1	Item / Product Name	AGNI-Strap - Stainless Steel Ties
	Dimensions	Width / Height (W/H): 4.6mm x 450mm
	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
4.3	Item	Power Fasteners Slotted Hex Head Tapper
	Dimensions	75mm x 6mm

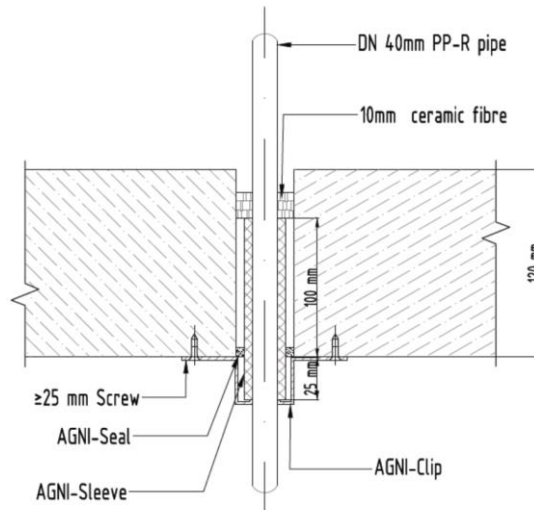
	Installation	Used to fix AGNI-Sleeve to separating element
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<b>Backing</b>		
8.1	Item / Product Name	Ceramic Fibre
	Dimensions	Thickness (T): 10mm
		Density ( $\rho$ ): 91.26 kg/m <sup>3</sup>
Installation	Installed in annular space, above AGNI-Sleeve	

<b>Intumescent</b>		
9.1	Item / Product Name	AGNI-Sleeve
	Dimensions	Width (W): 125mm
		Thickness (T): 3.5mm
Installation	Installed around service from exposed side	

## 5. Test Results

### 5.1 Specimen 1



**Figure 3 – Specimen 1**

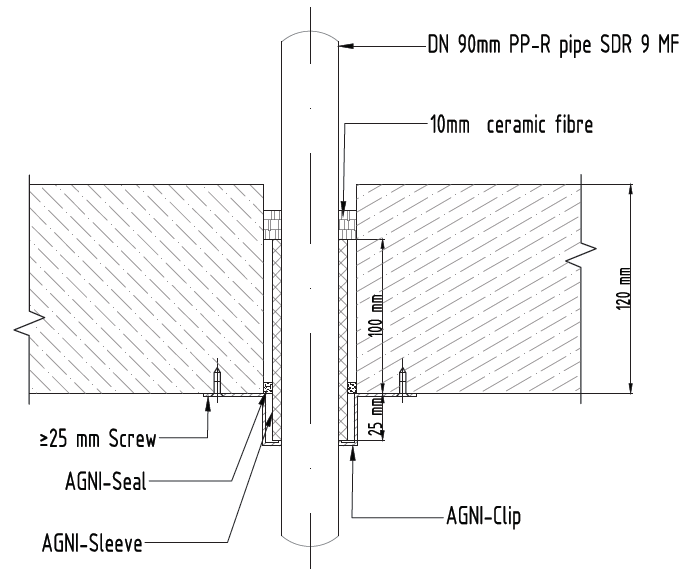
Service penetration details	
Service	40mm green SDR 11 S PPR pipe
Aperture Diameter	57mm
Annular Spacing	Min: 7.5mm, Max: 9.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 5.2 Specimen 2



**Figure 5 – Specimen 2**

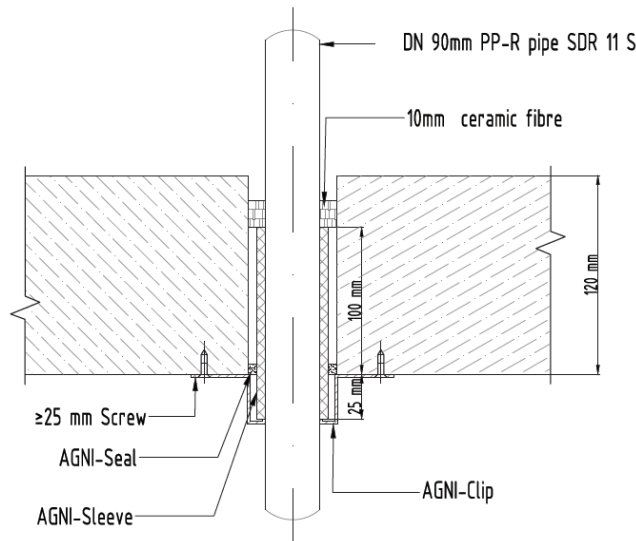
Service penetration details	
Service	90mm green SDR 9 MF PPR pipe
Aperture Diameter	102mm
Annular Spacing	Min: 5mm, Max: 6mm

Local Fire-stopping system	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

### 5.3 Specimen 3



**Figure 7 – Specimen 3**

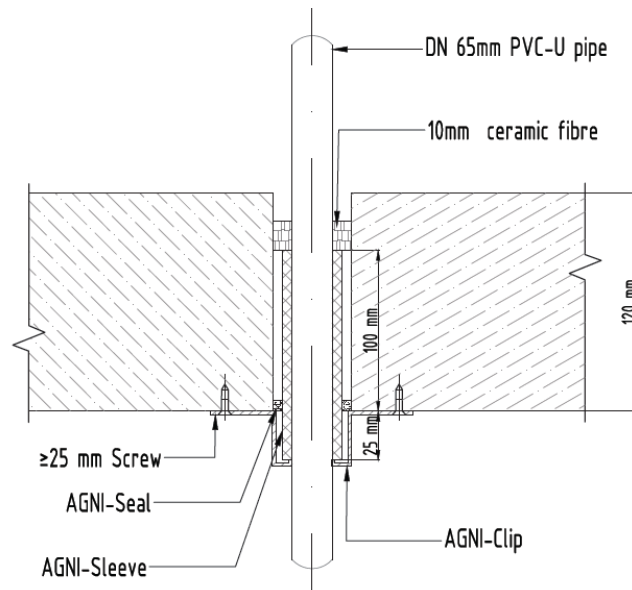
<b>Service penetration details</b>	
Service	90mm green SDR 11 S PPR pipe
Aperture Diameter	112mm
Annular Spacing	Min: 10mm, Max: 12mm

<b>Local Fire-stopping system</b>	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 5.4 Specimen 4



**Figure 9 – Specimen 4**

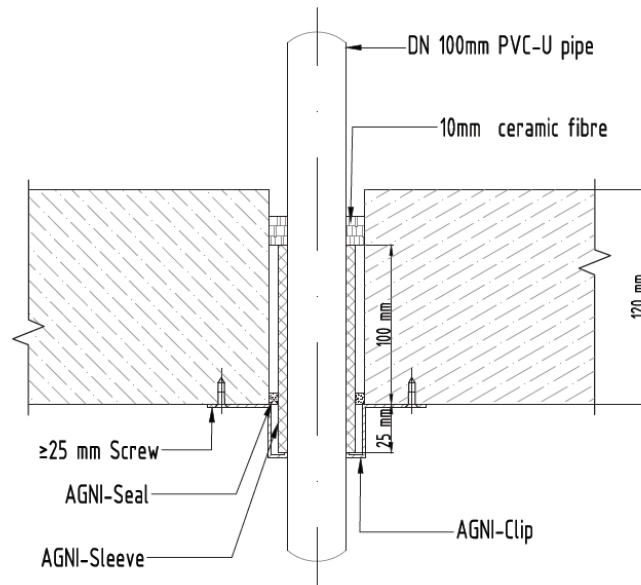
Service penetration details	
Service	DN65 PVC-U DWV Pipe
Aperture Diameter	86mm
Annular Spacing	Min: 6.5mm, Max: 10.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed on fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 5.5 Specimen 5



**Figure 11 – Specimen 5**

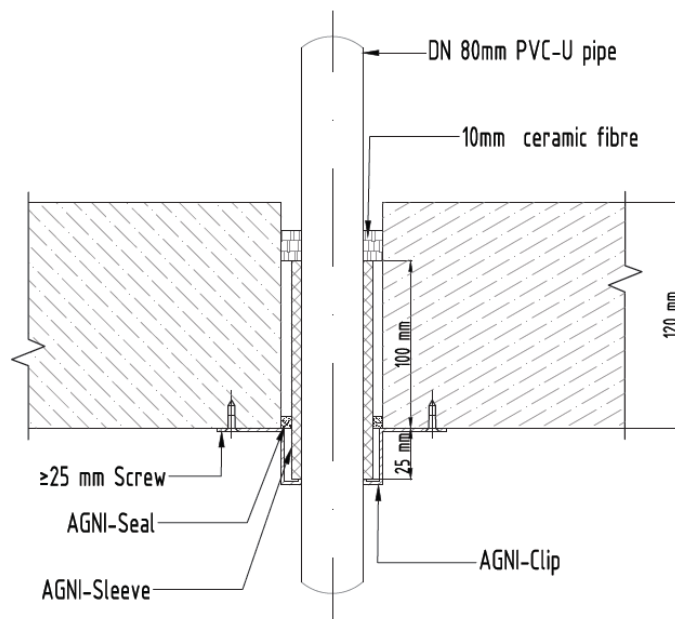
Service penetration details	
Service	DN100 PVC-U DWV Pipe
Aperture Diameter	130mm
Annular Spacing	Min: 9.5mm, Max: 11.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 5.6 Specimen 6



**Figure 13 – Specimen 6**

<b>Service penetration details</b>	
Service	DN80 PVC-U DWV Pipe
Aperture Diameter	112mm
Annular Spacing	Min: 14mm, Max: 15.5mm

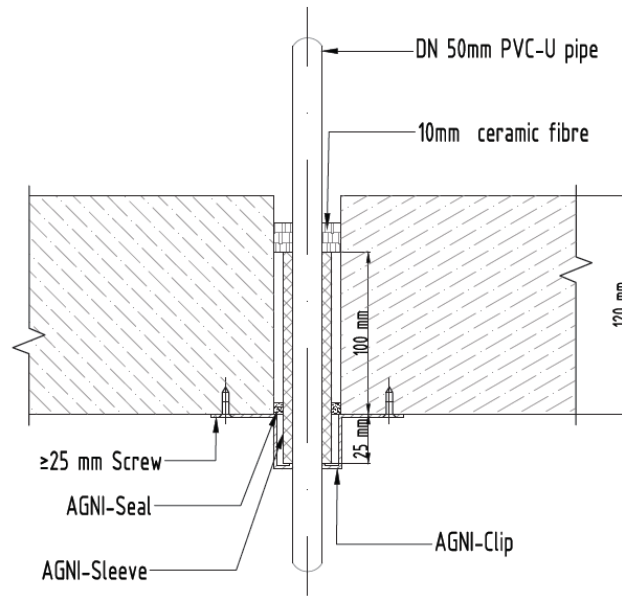
<b>Local Fire-stopping system</b>	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes



## 5.7 Specimen 7



**Figure 15 – Specimen 7**

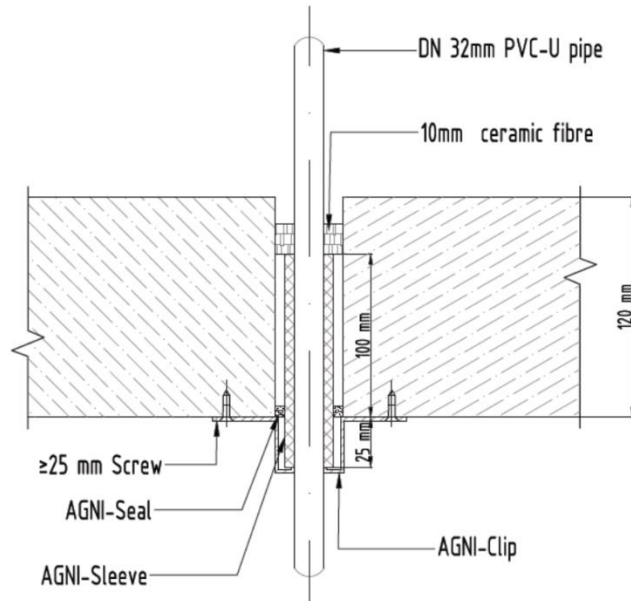
Service penetration details	
Service	DN50 PVC-U DWV Pipe
Aperture Diameter	85mm
Annular Spacing	Min: 12.5mm, Max: 16.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 5.8 Specimen 8



**Figure 17 – Specimen 8**

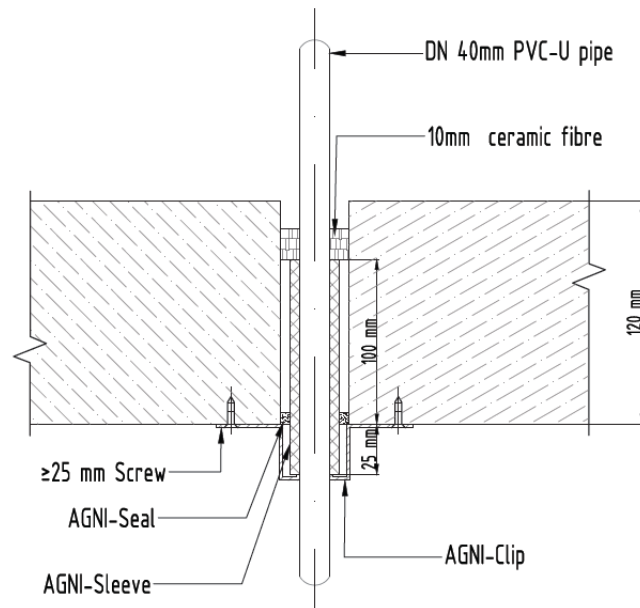
Service penetration details	
Service	DN32 PVC-U DWV Pipe
Aperture Diameter	46mm
Annular Spacing	Min: 6mm, Max: 8mm

Local Fire-stopping system	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 5.9 Specimen 9



**Figure 19 – Specimen 9**

Service penetration details	
Service	DN40 PVC-U DWV Pipe
Aperture Diameter	57mm
Annular Spacing	Min: 4.5mm, Max: 6.5mm

Local Fire-stopping system	
Application	Asymmetrical – installed from fire side only
System description	125mm wide AGNI-Sleeve was secured around the pipe with no overlap, using a cable tie. 10mm thick ceramic fibre was inserted in annular space. AGNI-Sleeve was inserted in annular space by 100mm, pushed ceramic fibre upward. AGNI-Seal sealed separating element and AGNI-Sleeve joint. AGNI-Sleeve fixed to separating element with 2 screws and clips.

### Test results

Structural adequacy	Not applicable
Integrity	No failure at 122 minutes
Insulation	No failure at 122 minutes

## 6. Observations during the test

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Time min	Test face	SP#	OBSERVATIONS/REMARKS
46	U	3	Cotton pad test applied over visible red glowing in aperture for 30 seconds – PASS
49	U	3	Cotton pad test applied over visible red glowing on pipe in aperture for 30 seconds – PASS
102	U	6	Pipe moved out of aperture, cotton pad test applied over red glowing in intumescent in aperture for 30 seconds – PASS
122			Test Discontinued

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