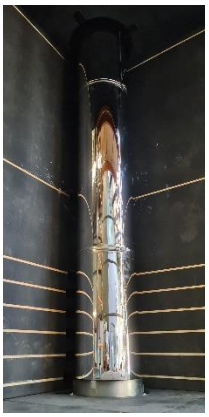
AUSTRALIAN SOLID FUEL TESTING
3 Garden Street, Morwell Vic 3840
ABN: 46 610 154 768

PREPARED FOR

PIVOT STOVES & HEATING



THERMAL TESTING OF THE ROOM SEALED FLUE 10 KIT IN A FLAT CEILING AND ROOF PENETRATION ACCORDING TO APPENDIX F OF AS/NZS2918:2018

Report Number: ASFT23066-1
Issue date: 15 June 2024

By:
Garry W. Mooney

Report Distribution

Pivot Stoves & Heating
120 Victoria Street
Nth Geelong VIC

Mr Greg Parker-Hill

ASFT Report Archive

Revision Details

Revision	Date	Comments
0	3/10/2023	Preliminary report – awaiting payment and engineering drawings of Room Sealed Flue 10 Kit
1	15/06/2024	Issue of NATA endorsed test report

THERMAL TESTING OF THE ROOM SEALED FLUE 10 KIT TO AS/NZS2918:2018 APPENDIX F

Report

The Room Sealed Flue 10 Kit was installed in a Flat Ceiling and Roof Penetration in a manner conforming to joint Australian/New Zealand Standard 2918:2018, Appendix F.

The Room Sealed Flue 10 Kit conforms to the requirements of the joint AS/NZS 2918:2018 Standard, Appendix F when installed in a Flat Ceiling and Roof Penetration.

The Flue system was tested at the following clearances:

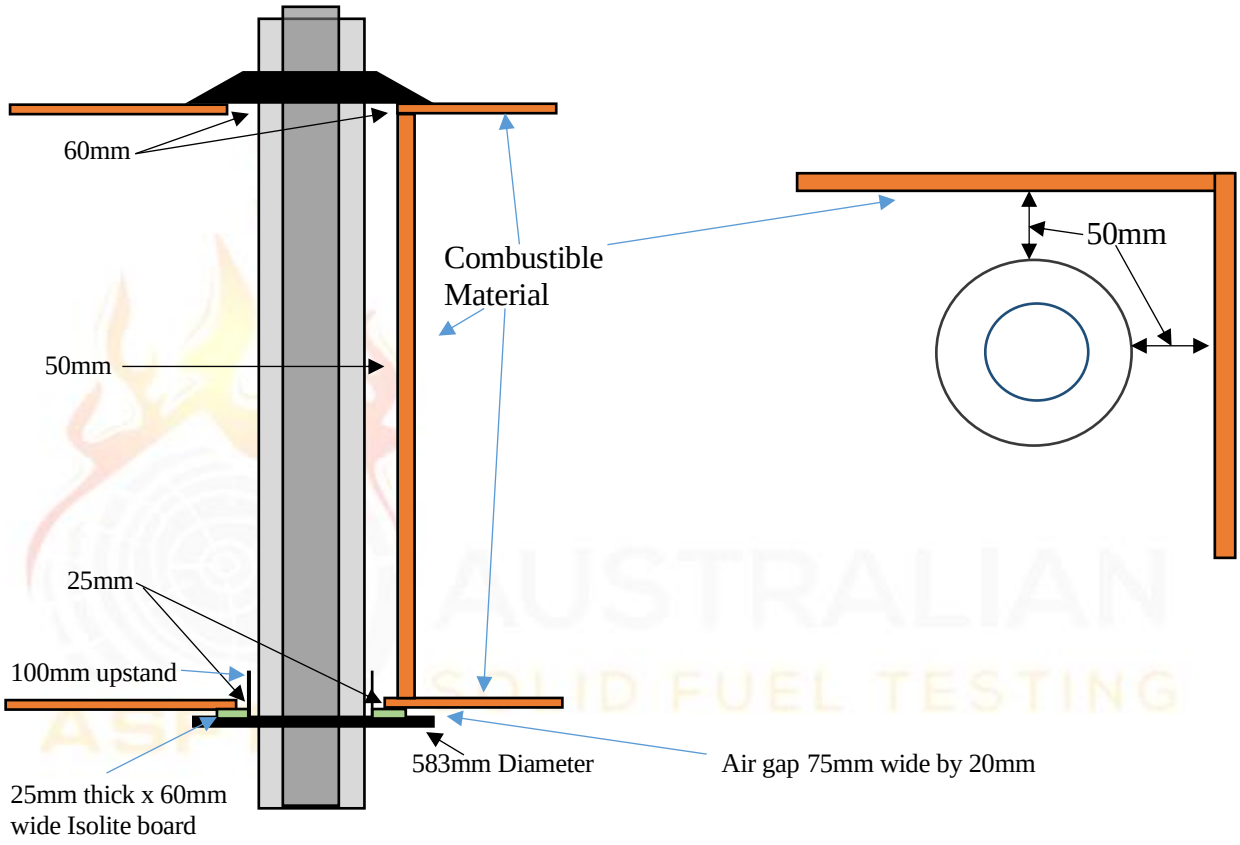


Figure 1 – Clearance Diagram

Signed		**Approved**	
Name	Garry W. Mooney	**Name**	Steve Marland
Title	*Technical Officer*	**Title**	*Managing Director – Australian Solid Fuel Testing*
Date	15/06/2024	**Date**	15/06/2024

1. INTRODUCTION

Thermal Clearance testing of the Room Sealed Flue 10 Kit took place on 27 September and 2 October 2023 at the Australian Solid Fuel Testing Laboratory located at 3 Garden Street, Morwell, Victoria. The testing was performed by Mr G.W. Mooney and Mr S. Marland.

2. PROCEDURE

Testing was conducted as per Appendix F of AS/NZS2918;2018, Hot sites were located with the aid of an infra-red thermometer. Thermocouple tips were stapled onto the test surfaces, with black tape over the first 100 mm to facilitate consistent and accurate recording of temperatures. Thermocouple positions are shown in the table below:

Thermocouple No.	Position	**Thermocouple No.**	Position
1	Flue gas temperature	17	RHS Wall, 250mm above Ceiling, 200mm from corner
2	Ceiling – Ring Inner Right	18	LHS Wall, 350mm above Ceiling, 200mm from corner
3	Ceiling – 50mm Right	19	RHS Wall, 350mm above Ceiling, 200mm from corner
4	Ceiling – 100mm Right	20	LHS Wall, 450mm above Ceiling, 200mm from corner
5	Ceiling – 150mm Right	21	RHS Wall, 450mm above Ceiling, 200mm from corner
6	Ceiling – 200mm Right	22	LHS Wall, 550mm above Ceiling, 200mm from corner
7	Ceiling – Ring Inner Left	23	RHS Wall, 550mm above Ceiling, 200mm from corner
8	Ceiling – 50mm Left	24	LHS Wall, 1000mm above Ceiling, 200mm from corner
9	Ceiling – 100mm Left	25	RHS Wall, 1000mm above Ceiling, 200mm from corner
10	Ceiling – 150mm Left	26	LHS Wall, 1950mm above Ceiling, 200mm from corner
11	Ceiling – 200mm Left	27	RHS Wall, 1950mm above Ceiling, 200mm from corner
12	LHS Wall, 50mm above Ceiling, 200mm from corner	28	Roof – Ring Inner Front
13	RHS Wall, 50mm above Ceiling, 200mm from corner	29	Roof – Ring Inner Rear
14	LHS Wall, 150mm above Ceiling, 200mm from corner	30	Roof – Ring Inner Left
15	RHS Wall, 150mm above Ceiling, 200mm from corner	31	Roof – Ring Inner Right
16	LHS Wall, 250mm above Ceiling, 200mm from corner	32	Ambient temperature

5. RESULTS

5.1 Ambient and Test Surface Temperatures

The Table below show the Ambient temperatures during testing of the Flue Kit.

Hot Fire	Flue Fire
18.9 – 26.2	27.8 – 33.6

5.2 Hot Flue Test

The Flue Kit was tested in accordance with Section F8.1 of AS/NZS2918;2018. The Flue gas temperature was maintained at 760± 20°C until the maximum temperatures on each surface had been reached.

Below is a table of the maximum temperatures reached above Ambient.

Position	Thermocouple Number	Hot Fire Test (°C)
Ceiling	2	33.6
RHS Wall	27	33.1
LHS Wall	26	43.0
Roof	31	51.8

5.3 Flue Fire Test

The Flue Kit was tested in accordance with Section F8.2 of AS/NZS2918;2018. The Flue gas temperature was raised from 760 ± 20°C to 1125 ± 20°C within 10 minutes, then held at 1125 ± 20°C for a period of 30 minutes.

Below is a table of the maximum temperatures reached above Ambient.

Position	Thermocouple Number	Flue Fire Test (°C)
Ceiling	7	82.3
RHS Wall	25	85.7
LHS Wall	14	85.2
Roof	31	98.7

5.4 Structural Integrity Test

The Pivot Stoves & Heating Room Sealed Flue 10 Kit was tested in accordance with Section F8.3 of AS/NZS2918;2018. The Flue gas temperature was raised kept at 760 ± 20°C then raised to 1125 ± 20°C within 10 minutes, then held at 1125 ± 20°C for a period of 10 minutes. This process was repeated three times.

The Pivot Stoves & Heating Room Sealed Flue 10 Kit was dismantled the following day and the components inspected for their Structural Integrity.

No Structural Integrity issues were found.

5.4 Uncertainty of Measurement Statement

5.5.1 The uncertainty of distance measurement for determining clearance distances was not greater than ± 3mm.

5.5.2 The uncertainty of temperature measurement during the entire test period was a maximum of ± 2°C at a 95% confidence level.

6. FLUE KIT CONSTRUCTION DETAILS

The test results reported directly relate to the Flue Kit/flue system tested. The details of the Flue Kit given in this section include features which may affect safety clearances. Any change in the design/construction of this Flue Kit or flue may invalidate this report. Below are the constructions details of the Flue Kit:

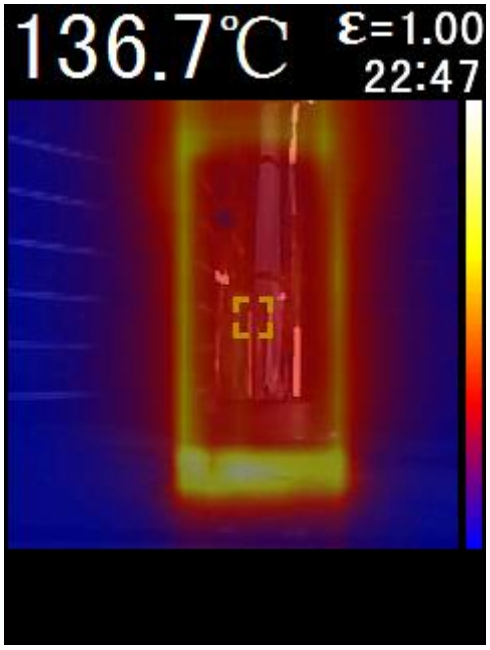
Flue Model: **Room Sealed Flue 10**	Serial No: **N/A**
Manufacturer: **Pivot Stoves & Heating**	
Active Flue diameter: **250mm** Material thickness: **0.4mm**	Length: **1000mm**
Ceiling ring diameter: **583mm 100mm upstand with 25mm isolite board on outside of upstand for 60mm (screwed hard to ceiling) then 75mm wide air gap to outside of ring. Made of 0.8mm painted steel**	
Outer Casing below Ceiling diameter: **300mm** **Outer casing fixed to active and packed with quartz insulation** Material Type/Thickness: **0.4mm stainless steel**	Length: **340mm**
1st Outer Casing Above Ceiling diameter: **300mm** **Outer casing fixed to active and packed with quartz insulation** Material Type/Thickness: **0.4mm stainless steel**	Length: **1000mm**
Cowl Height: **270mm** Diameter: **450mm** Material Type: **Stainless Steel** Area of Venting in Cowl: **No venting**	
NOTE: Accuracy of measurement is ±5% of the measured value	

Appendix 1 is thermal images of the Flue Kit during testing
Appendix 2 is the installation manual/Instructions for the Flue Kit

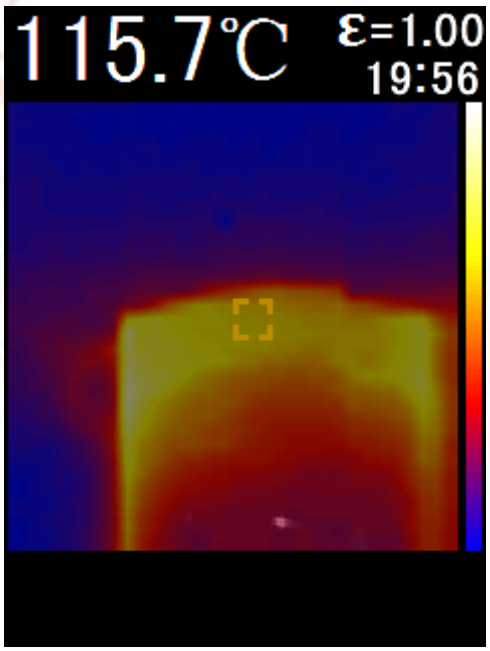
7. CONCLUSION

The Room Sealed Flue 10 Kit, conforms to the requirements of Australian/New Zealand Standard 2918:2018, when tested in accordance with Appendix F.

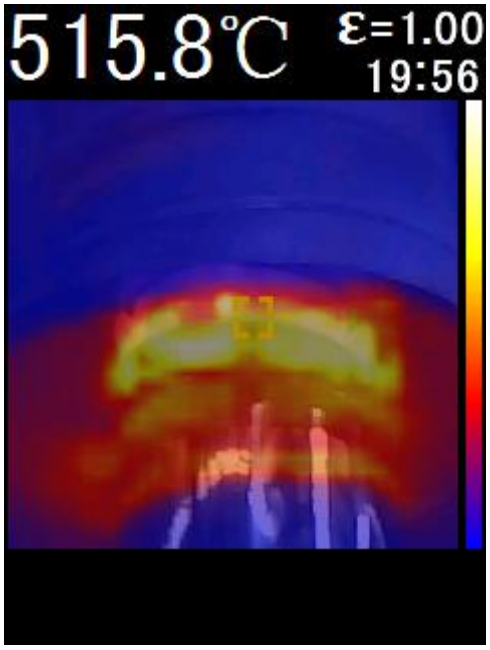
APPENDIX 1:



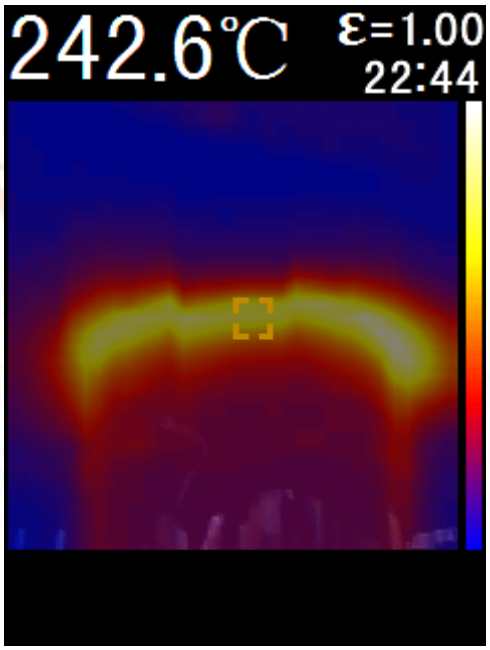
Above Ceiling



Below Roof



Above Roof



Below Ceiling

APPENDIX 2:

Insulated Room Sealed Flue Kit

5m Flue Kit for Cast Iron Fireplaces