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

PREPARED FOR

LACUNZA

THERMAL CLEARANCE TESTING OF THE OSLO FREE STANDING APPLIANCE

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By:
Garry W. Mooney

NATA WORLD RECOGNISED ACCREDITATION

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Revision Details

Revision	Date	Comments
0	1/12/2025	Preliminary report – awaiting payment and engineering drawings of appliance
1	04/12/2025	Issue of NATA endorsed test report

THERMAL CLEARANCE TESTING OF THE OSLO FREE-STANDING APPLIANCE

Report

The Oslo Free Standing Appliance installed with a Wildcat 6" triple flue kit with 8" solid casing was tested in two positions in a manner conforming to joint Australian/New Zealand Standard 2918:2018, Appendix B.

A minimum 745mm deep x 1020mm wide x 6mm thick floor protector (compressed board) should be used under and in front of the appliance base when installing the appliance (see joint AS/NZS 2918:2018 3.3.2). The floor protector should extend 300mm in front of the appliance door and be placed centrally in the 1020mm width. The Thermal resistivity of the floor protector is 0.026m².K/W for 6mm thick compressed board sheets.

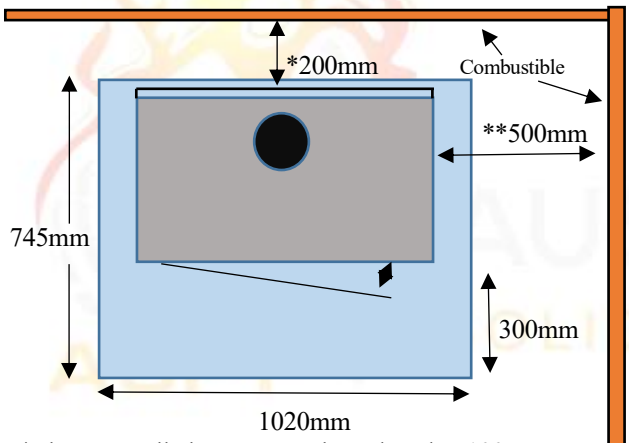
Combustible material can be stored up to 180mm below the firebox.

The appliance must be fitted with an internal heat deflector at the bottom rear of the oven, the deflector must be 400mm wide and fitted centrally at the base of the oven and sealed to direct the majority of hot gasses away from the rear of the oven.

The Oslo Free-Standing solid fuel appliance installed with a Wildcat 6" triple flue kit with 8" solid casing conforms to the requirements of the joint AS/NZS 2918:2018 Standard, Appendix B.

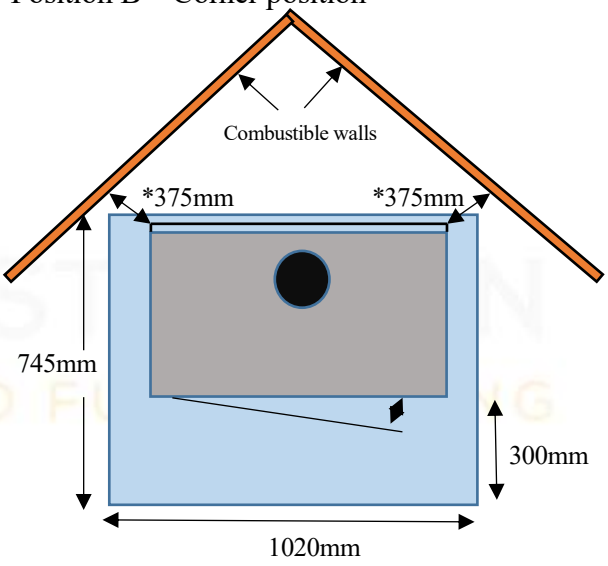
The appliance and flue system were tested at the following clearances:

Position A – Parallel position



*The rear wall clearance can be reduced to 100mm from a combustible wall when the is appliance is fitted side heat shields. The heatshields were 50mm from each side of the appliance measuring 445mm wide x 1310mm high x 1.5 thick. The 100mm clearance from a combustible wall is measured from the appliance rear heat shield.
**The side wall clearance can be reduced to 250mm from a combustible wall when the appliance is fitted with the side heat shields.

Position B – Corner position



*The side wall clearance can be reduced to 75mm from a combustible wall when the is appliance is fitted with side heat shields 50mm from each side of the appliance measuring 445mm wide x 1310mm high x 1.5 thick. The 75mm clearance from a combustible wall is measured from the rear corner of the appliance side heat shields.

Figure 1 – Clearance Diagram

Signed		**Approved**	
Name	Garry W. Mooney	**Name**	Steve Marland
Title	*Technical Officer*	**Title**	*Managing Director – Australian Solid Fuel Testing*
Date	4/12/2025	**Date**	4/12/2025

1. INTRODUCTION

Thermal Clearance testing of the Appliance and flue system took place on 26, 27 and 28 of November 2025 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 B 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:

Position A – Parallel Position

Thermocouple No.	Position	**Thermocouple No.**	Position
1	Floor - 1300mm in front of centre	16	Floor – 150mm RHS of centre
2	Floor – 1200mm in front of centre	17	Floor – 300mm RHS of centre
3	Floor - 1050mm in front of centre	18	Floor – 450mm RHS of centre
4	Floor – 900mm in front of centre	19	Ceiling Ring – Inner front
5	Floor – 750mm in front of centre	20	Ceiling Ring – 25mm in front
6	Floor – 600mm in front of centre	21	Ceiling Ring – Inner side
7	Floor – 450mm in front of centre	22	Ceiling Ring – 25mm to side
8	Floor – 300mm in front of centre	23	Rear wall – 402mm from corner, 1031mm above the floor
9	Floor – 150mm in front of centre	24	Rear wall – 792mm from corner, 1865mm above the floor
10	Floor – Centre of flue	25	Rear wall – 671mm from corner, 964mm above the floor
11	Floor – 150mm behind centre	26	RHS wall, 386mm from corner, 937mm above the floor
12	Floor – 300mm behind centre	27	RHS wall, 300mm from corner, 1310mm above the floor
13	Floor – 450mm LHS of centre	28	RHS wall, 850mm from corner, 887mm above the floor
14	Floor – 300mm LHS of centre	29	Rear wall – 922mm from corner, 801mm above the floor
15	Floor – 150mm LHS of centre	30	Ambient temperature

Position B – Corner Position

Thermocouple No.	Position	Thermocouple No.	Position
19	Ceiling Ring – Inner front	25	LHS wall – 871mm from corner, 1031mm above the floor
20	Ceiling Ring – 25mm in front	26	RHS wall, 799mm from corner, 1042mm above the floor
21	Ceiling Ring – Inner side	27	RHS wall, 300mm from corner, 1310mm above the floor
22	Ceiling Ring – 25mm to side	28	RHS wall, 876mm from corner, 892mm above the floor
23	LHS wall – 467mm from corner, 1031mm above the floor	29	Wood storage area 180mm below fire box, 220mm from the rear, 348mm from RHS
24	LHS wall – 521mm from corner, 1865mm above the floor	30	Ambient temperature

TABLE 1

3. TEST FUEL

Testing was conducted with Pinus Radiata as the test fuel which had a moisture content of 13.9% moisture. Each firewood piece was 250mm x 90mm x 40mm.

4. FLUE SYSTEM

The flue system used during testing was a Wildcat 6" triple flue kit with 8" solid casing was supplied by Wildcat Industries (Aust) Pty Ltd. This flue system conforms to the requirements to joint AS/NZS 2918:2018, Appendix F. The flue height was 4.6 ± 0.1m from the floor protector. Appendix 1 shows details of the flue system.

5. RESULTS

5.1 High Fire Test

The appliance was fired in accordance with Section B9.1 of AS/NZS2918;2018. The level of fuel was maintained between 50-75% of the full volume level of the fuel chamber during the High Fire test.

The average fuel load for initiating the High Fire tests was 7.6kg with an average refuelling rate of 1.0kg/10 minutes.

During High Fire testing it was found that the highest surface temperatures occurred when the primary air control of the appliance was fully open, oven control fully closed, draft air fully open.

5.2 Flash Fire Test

Immediately after the High Fire test was completed, sufficient embers were removed to bring the fire bed to a level of 15-25% of the fuel chamber volume. The appliance was then fired in accordance with Section B9.2 of AS/NZS2918;2018.

The average fuel load for initiating the Flash Fire tests was 5.7kg.
The highest temperature rises were achieved by leaving the main door resting against the door catch with the Primary air control fully open, oven control fully closed, draft air fully open.

5.3 Ambient and Test Surface Temperatures

The Tables below show the Ambient temperatures and test surfaces temperatures during testing of the appliance and flue combination:

Ambient Temperature Range℃

Position	High Fire	Flash Fire
A	14.1 – 25.3	21.7 – 28.6
B	20.5 – 28.2	21.4 – 28.5

Maximum Surface Temperature Rise above Ambient - Position A

Position	Thermocouple Number	High Fire Test (°C)	Thermocouple Number	Flash Fire Test (°C)
Floor	5	47.6	7	54.6
Ceiling	22	25.6	20	28.6
Rear Wall	23	51.5	23	73.5
Side Wall	28	60.5	28	52.3

Maximum Surface Temperature Rise above Ambient - Position B

Position	Thermocouple Number	High Fire Test (°C)	Thermocouple Number	Flash Fire Test (°C)
Ceiling	20	21.0	20	24.1
RHS Wall	28	59.0	28	49.6
LHS Wall	25	56.7	29	78.0

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. APPLIANCE CONSTRUCTION DETAILS

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

Appliance Model Name: **Oslo**		Serial No: **3021040002**
Manufacturer: **Lacunza**		
Overall Height: **1355mm**	Overall Depth: **445mm**	Overall Width: **700mm**
Top Plate Width: **700mm**	Top Plate Depth: **395mm**	Top Plate Thickness: **3mm**
Wood Storage Area Height: **420mm**	Depth: **380mm**	Width: **695mm**
Usable Firebox Height: **210-257mm**	Width: **630mm**	Depth: **315mm**
Usable Firebox Volume: **46.3 Litres**		
Oven Height: **235mm**	Width: **550mm**	Depth: **338mm**
Oven Volume: **43.7 Litres**		
Firebox Material Type/Seam Fully Welded: **Fully welded 3mm steel**		
Firebrick Type: **30mm compressed vermiculite**		
Main Door Opening Height: **215mm**	Width: **620mm**	
Door Height: **435mm**	Width: **650mm**	Depth: **25mm**
Door glass Height: **245mm**	Width: **540mm**	
Oven Door Opening Height: **235mm**	Width: **555mm**	
Over Door Height: **400mm**	Width: **653mm**	Depth: **25mm**
Primary Air Location: **Below firebox**		
Dimension of Primary Air: **3 slots @ 30x7mm**		
Area of Primary (mm^2): **630mm^2**		
Secondary/Tertiary Air Location: **Rear of firebox 40mm below baffle**		
Dimension of Secondary/Tertiary Air: **18 holes @ 6mm**		
Area of Secondary/Tertiary Air (mm^2): **509.0mm^2**		
Baffle Plate size: **629mm wide x 245mm deep x 30mm thick compressed vermiculite**		
Flue Dimensions: **152mm**		
Spigot Dimensions:	OD: **157mm**	ID: **150mm**
Spigot to Rear of Appliance: **75mm**		
Rear Internal to External Heat Shield: **50mm**		
Firebox to Side External Heat Shield: **N/A**		
Heat Shield Material Type: **2mm steel**		
Water Heater Fitted: **No**		
Fan Location/Speeds: **No**		
Catalytic Combustor fitted: **No**		
Grate: **No**		
NOTE: Accuracy of measurement is ±5% of the measured value		

7. CONCLUSION

The Oslo Free Standing Appliance installed with a Wildcat 6” triple flue kit with 8” solid casing, conforms to the requirements of Australian/New Zealand Standard 2918:2018, with respect to floor, ceiling, side wall and rear wall surface temperatures, when tested in the test positions shown in Figure 1 of this report in accordance with Appendix B of AS/NZS2918;2018.

APPENDIX 1:

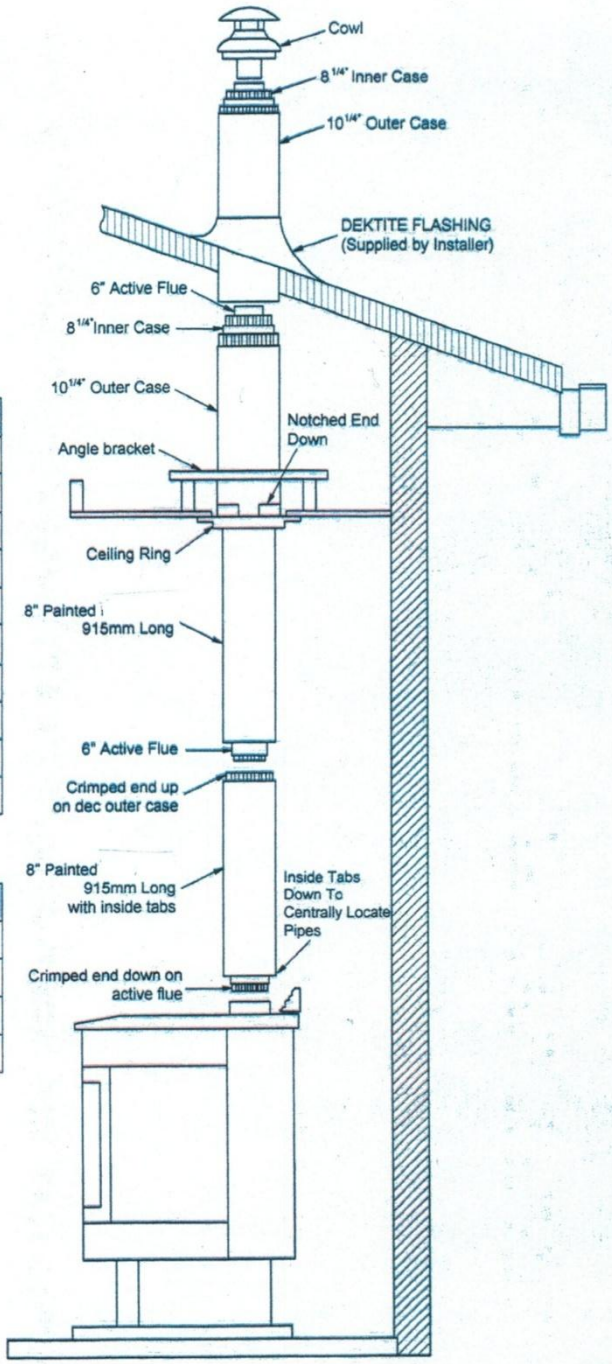
Wildcat INDUSTRIES (Aust) P/L

Freestanding Triple Skin Flue Kit
6" - 8" - 10" System

QTY	DESCRIPTION
4	6" Stainless Steel Inner Flue 915mm Long
1	7¾" Painted 915mm Long
1	7¾" Painted 915mm Long with in-tabs
2	8" Galvanized Inner Flue Casing 915mm Long
1	10" Galvanized Notched Outer Flue Casing 915mm Long
1	10" Galvanized Outer Flue Casing 915mm Long
1	Cowl
1	Ceiling Ring
2	75 x 25 Angles 915mm Long
1	Installation Guide

CARTON SPECIFICATIONS	
Height	460mm
Width	460mm
Length	1150mm
Weight	32kg

WILDCAT INDUSTRIES
35 Marconi Drive, Dandenong South VIC 3175
PH: 03 9706 5544
ABN 84 112 862 718
www.wildcatindustries.com.au



MUST ONLY BE INSTALLED BY AN AUTHORISED PERSON IN COMPLIANCE WITH AS 2918

Freestanding 10 Triple Skin Instruction page