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LACUNZA



**THERMAL CLEARANCE TESTING OF THE ALTEA FREE-
STANDING APPLIANCE**

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Revision Details

Revision	Date	Comments
0	20/11/2025	Preliminary report – awaiting payment and engineering drawings of appliance

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THERMAL CLEARANCE TESTING OF THE APPLIANCE FREE-STANDING APPLIANCE

Report

The Altea 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.

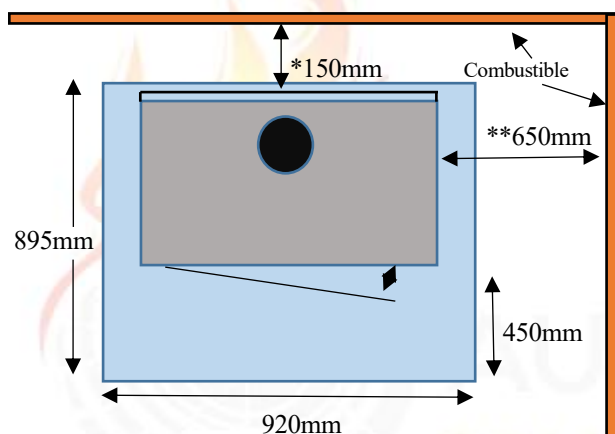
A minimum 895mm deep x 920mm wide x 12 mm thick floor protector (compressed board) should be used under and in front of the appliance base when installing the appliance (see joint AS/NZS 2918:2018 3.3.2). The floor protector should extend 450mm in front of the appliance door and be placed centrally in the 920mm width. The Thermal resistivity of the floor protector is 0.052m².K/W for 12mm thick compressed board sheets.

Combustible material must not be stored under the appliance.

The Appliance 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:

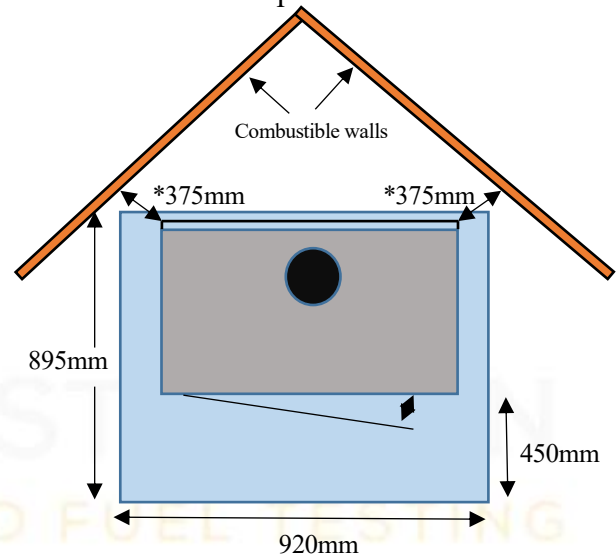
Position A – Parallel position



*The rear wall clearance can be reduced to 50mm from a combustible wall when the appliance is fitted with side heat shields. The heatshields were 50mm from each side of the appliance measuring 445mm wide x 1100mm high x 1.5 thick. The 50mm clearance from a combustible wall is measured from the appliance rear heat shield.



**The side wall clearance can be reduced to 325mm 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 150mm from a combustible wall when the appliance is fitted with side heat shields. The 150mm 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	20/11/2025	Date	20/11/2025

1. INTRODUCTION

Thermal Clearance testing of the Appliance and flue system took place on 14 and 17 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 – 788mm from corner, 797mm above the floor
9	Floor – 150mm in front of centre	24	Rear wall – 852mm from corner, 1933mm above the floor
10	Floor – Centre of flue	25	Rear wall – 951mm from corner, 1205mm above the floor
11	Floor – 150mm behind centre	26	RHS wall, 836mm from corner, 610mm above the floor
12	Floor – 300mm behind centre	27	RHS wall, 292mm from corner, 1291mm above the floor
13	Floor – 450mm LHS of centre	28	RHS wall, 466mm from corner, 985mm above the floor
14	Floor – 300mm LHS of centre	29	Rear wall – 416mm from corner, 882mm 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 – 656mm from corner, 974mm above the floor
20	Ceiling Ring – 25mm in front	26	RHS wall, 838mm from corner, 361mm above the floor
21	Ceiling Ring – Inner side	27	RHS wall, 299mm from corner, 1329mm above the floor
22	Ceiling Ring – 25mm to side	28	RHS wall, 932mm from corner, 944mm above the floor
23	LHS wall – 437mm from corner, 799mm above the floor	29	LHS wall, 911mm from corner, 799mm above the floor
24	LHS wall – 497mm from corner, 1701mm 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 ± 0.1 m 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 6.1kg 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 and the oven control fully closed.

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 4.4kg.

The highest temperature rises were achieved by leaving the main door resting against the door catch with the primary air fully open and the oven control fully closed.

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 °C

Position	High Fire	Flash Fire
A	12.0 – 33.2	27.3 – 32.3
B	11.8 – 22.8	18.0 – 21.4

Maximum Surface Temperature Rise above Ambient - Position A

Position	Thermocouple Number	High Fire Test (°C)	Thermocouple Number	Flash Fire Test (°C)
Floor	7	55.9	7	57.6
Ceiling	22	27.4	20	25.8
Rear Wall	23	54.0	23	51.3
Side Wall	26	32.7	26	54.7

Maximum Surface Temperature Rise above Ambient - Position B

Position	Thermocouple Number	High Fire Test (°C)	Thermocouple Number	Flash Fire Test (°C)
Ceiling	20	21.7	20	24.5
RHS Wall	28	61.7	28	44.4
LHS Wall	29	60.7	29	70.5

5.4 Uncertainty of Measurement Statement

5.5.1 The uncertainty of distance measurement for determining clearance distances was not greater than $\pm 3\text{mm}$.

5.5.2 The uncertainty of temperature measurement during the entire test period was a maximum of $\pm 2^\circ\text{C}$ 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: Altea		Serial No: 3028310002
Manufacturer: Lacunza		
Overall Height: 1140mm	Overall Depth: 445mm	Overall Width: 600mm
Top Plate Width: 600mm	Top Plate Depth: 395mm	Top Plate Thickness: 3mm
Wood Storage Area Height: 208mm	Depth: 380mm	Width: 595mm
Usable Firebox Height: 212-260mm	Width: 533mm	Depth: 315mm
Usable Firebox Volume: 39.6 Litres		
Oven Height: 245mm	Width: 444mm	Depth: 328mm
Oven Volume: 35.8 Litres		
Firebox Material Type/Seam Fully Welded: Fully welded 3mm steel		
Firebrick Type: 30mm compressed vermiculite		
Main Door Opening Height: 300mm	Width: 517mm	
Door Height: 435mm	Width: 550mm	Depth: 25mm
Door glass Height: 245mm	Width: 440mm	
Oven Door Opening Height: 245mm	Width: 445mm	
Over Door Height: 400mm	Width: 550mm	Depth: 25mm
Primary Air Location: Below firebox		
Dimension of Primary Air: 3 slots @ 30x7mm		
Area of Primary (mm ²): 630mm²		
Secondary/Tertiary Air Location: Rear of firebox 40mm below baffle		
Dimension of Secondary/Tertiary Air: 14 holes @ 5.5mm		
Area of Secondary/Tertiary Air (mm ²): 332.7mm²		
Baffle Plate size: 590mm wide x 245mm deep x 30mm thick compressed vermiculite		
Flue Dimensions: 152mm		
Spigot Dimensions:	OD: 160mm	ID: 150mm
Spigot to Rear of Appliance: 75mm		
Rear Internal to External Heat Shield: 55mm		
Firebox to Side External Heat Shield: 50mm		
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 $\pm 5\%$ of the measured value		

7. CONCLUSION

The Altea 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:

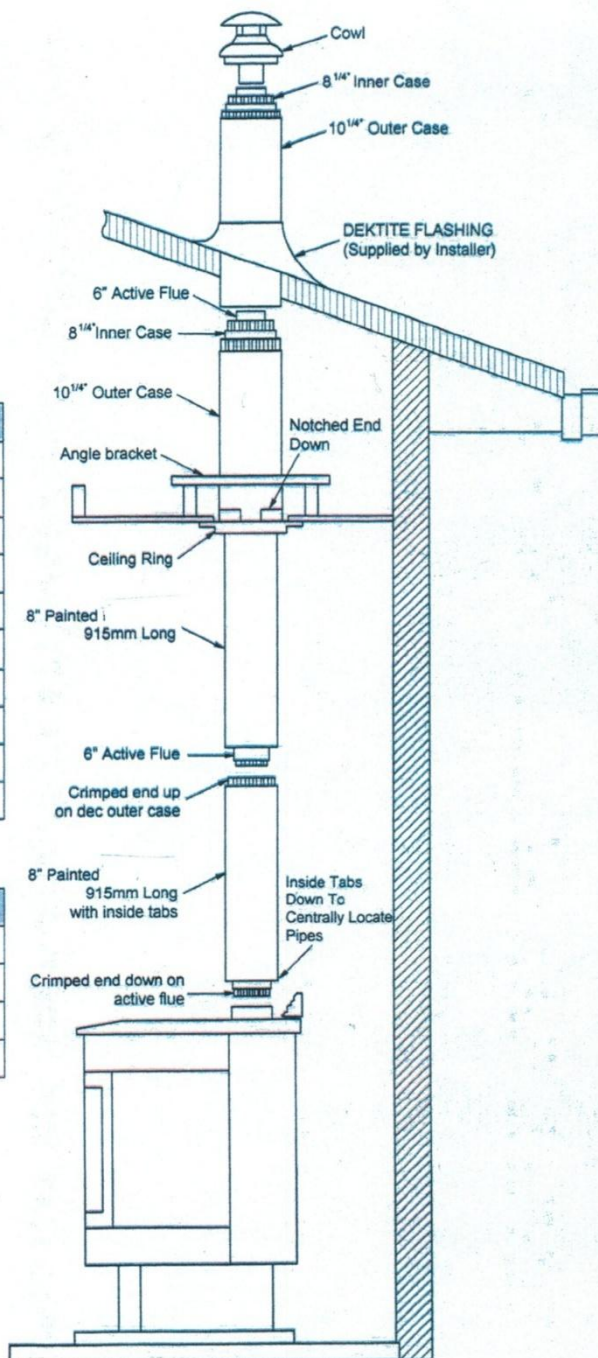


Freestanding Triple Skin Flue Kit 6" - 8" - 10" System

QTY	DESCRIPTION
4	6" Stainless Steel Inner Flue 915mm Long
1	7 1/4" Painted 915mm Long
1	7 1/4" 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

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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