



# TAX INVOICE

Glasshouse Property Management  
PO Box 615  
Hamilton East  
Cambridge 3450

**Invoice Date**  
11 Sep 2020

**Invoice Number**  
14405

**Reference**  
RBWO013242 -  
Laura-Kate Petersen

**GST Number**  
109723363

Resultz Group NZ Ltd  
PO BOX 12346  
Chartwell 3248  
Ph 07 9744 566  
Ph 0800 933 383

Description	Quantity	Unit Price	Amount NZD
53 Braid Road, Saint Andrews, Hamilton, Waikato, 3200			
Healthy Homes Inspection plus Smoke Alarm compliance check > 3 Corp	1.00	195.00	195.00
		Subtotal	195.00
		TOTAL GST 15%	29.25
		<b>TOTAL NZD</b>	<b>224.25</b>

## Due Date: 18 Sep 2020

Direct payment to Resultz Group NZ Ltd  
ASB Morrinsville, 12-3225-0013324-00 Resultz Group NZ Ltd

Farmlands payments accepted - contact the office to set up as preferred payment option.

Credit Cards accepted - 3% surcharge applies

## PAYMENT ADVICE

To: Resultz Group NZ Ltd  
PO BOX 12346  
Chartwell 3248  
Ph 07 9744 566  
Ph 0800 933 383

**Customer** Glasshouse Property Management  
**Invoice Number** 14405  
**Amount Due** **224.25**  
**Due Date** 18 Sep 2020  
**Amount Enclosed**

Enter the amount you are paying above

## Request Details

Request ID: HH000164  
Job Reference: 14405  
Prepared for: Laura-Kate Petersen  
C/- Glasshouse Property Management  
Address: 53 Braid Street, Saint Andrews  
Hamilton  
Inspection date: 27<sup>th</sup> August 2020  
Report date: 4<sup>th</sup> September 2020  
Time: 2.40pm  
Weather: Wet

## Healthy Homes Assessment



## Inspection & Report Findings

## Compliance

Moisture Ingress and Drainage	Does not meet Standard
Ventilation	Does not meet Standard
Heating	Complies
Draught Stopping	Does not meet Standard
Insulation	Unknown
Smoke Alarms	Complies

**THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL.**

Technician: Ray Foot  
Authorised By: Kyly Coombes  
Resultz Group NZ Ltd  
6277 SH1, Horotiu, Waikato 3288  
[admin@resultz.co.nz](mailto:admin@resultz.co.nz)



Please note that this report does not mean that any work, if required, will be completed immediately - once the report is sent, the owners will be arranging quotes for anything required. The deadline for compliance is July 2024 or 90 days from any new, varied or renewed tenancy agreements from the 1st July 2021.

## CORRECTIVE ACTIONS RECOMMENDED

### Drainage

The gutter at the right side of home is leaking.

**Recommended:** Repair join to prevent overflow and effectively drain rainwater from the property.

### Ventilation

The bathroom extractor unit is not in working order.

**Recommended:** To comply with the ventilation standard, Repair or replace the extractor fan. Ensure the extractor unit has exterior ducting of at least 125mm diameter and/or the fan and all exhaust ducting must have an exhaust capacity of at least 25 l/s.

### Draughts

Gaps identified in window frames in the living area and toilet.

**Recommended:** The windows require repair to close properly without gaps in all weather conditions.

Look to retro fit Louvres with an option that seals the window opening.

An option to install draught stop window seals may be a solution to fill any gap exceeding 3mm.

### Insulation

The ceiling of each domestic living space in the premises must be fully covered by qualifying ceiling insulation. Confirmation of full insulation is required due to restricted access.

The technician has identified there is a mix of Fibreglass batts and blown wool in the ceiling cavity however cannot confirm full coverage over the living area and bedrooms due to access.

**Recommended:** Provide Insulation certificate to confirm the Insulation qualifies.

# SITE INSPECTION

## MOISTURE INGRESS AND DRAINAGE

### Drainage

#### Work Required

Roof: Generally guttering and downpipes in good repair, except for the gutter leaking in the right-hand corner to be repaired. Annual gutter cleaning is recommended.

Surface water: Storm water, surface water, and ground water sufficiently dispersed away from property. Unable to comment on the state of any buried drains.



Drainage



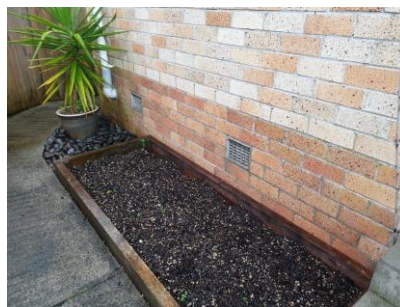
Downpipe & drainage



Vent & drainage



Sump



Vent & drainage



Downpipe



External guttering



External guttering

(1) The tenancy building must have a drainage system that efficiently drains storm water, surface water, and ground water to an appropriate outfall.

(2) The drainage system must include appropriate gutters, downpipes, and drains for the removal of water from the roof.

## MOISTURE BARRIER

### Complies

Reasonable access, moisture barrier present.



Reasonable access



Reasonable access



Insulation & Moisture Barrier

#### Moisture barrier standard

28 Suspended floors to have ground moisture barrier

(1) This regulation applies if-

- (a) the tenancy building has a suspended floor; and
- (b) the subfloor space is enclosed.

(2) The tenancy building subfloor space must-

(a) have a ground moisture barrier that-

(i) is made of a material that meets the specifications for an on-ground vapour barrier set out in section 8 of NZS 4246:2016; and

(ii) was installed in accordance with section 8 of NZS 4246:2016; or

(b) have an alternative ground moisture barrier that-

(i) has a vapour flow resistance of at least 50 MN s/g; and

(ii) was installed by an appropriate professional installer.

(3) A subfloor space is enclosed if the airflow into and out of the space is significantly obstructed along at least 50% of the perimeter of the subfloor space by 1 or more of the following:

(a) a masonry foundation wall:

(b) cement boards, timber skirting, or other cladding:

(c) other parts of the building or any adjoining structure:

(d) any other permanent or semi-permanent structure that significantly obstructs airflow:

(e) rock, soil, or other similar material.

# VENTILATION

## VENTILATION - KITCHEN & BATHROOMS

### Work Required

#### KITCHEN

Extractor fan	Mechanical extraction, vented to the exterior
Installation date	Prior to 1 <sup>st</sup> July 2019
Ducting	150mm
Exhaust Capacity	N/A

#### BATHROOM

Extractor fan	Mechanical extraction, vented to the exterior – not working
Installation date	Prior to 1 <sup>st</sup> July 2019
Ducting	120mm
Exhaust Capacity	N/A



Kitchen



Extractor unit



External vent



Bathroom



Extractor unit



External vent

*Kitchen/Bathroom Ventilation Standard*

*23 Extractor fans for kitchens and bathrooms*

*(1) Each kitchen and bathroom in the premises must have an extractor fan installed in it.*

*(2) For a kitchen-*

*(a) the fan and all exhaust ducting must have a diameter of at least 150 mm; or*

*(b) the fan and all exhaust ducting must have an exhaust capacity of at least 50 l/s.*

*(3) For a bathroom-*

*(a) the fan and all exhaust ducting must have a diameter of at least 120 mm; or*

*(b) the fan and all exhaust ducting must have an exhaust capacity of at least 25 l/s*

**VENTILATION - LIVING SPACE**

**Complies**

**DINING/LOUNGE/KITCHEN**

Floor Area	18.25m <sup>2</sup>
Ventilation Type	Passive External door &/or windows
Existing Openable Window/Door	4.66m <sup>2</sup>
Required Openable Window/Door	0.91m <sup>2</sup>

Openable external door/windows meets/exceeds the minimum requirements for ventilation in this area.

**BEDROOM - ONE**

Floor Area	13.50m <sup>2</sup>
Ventilation Type	Passive External window
Existing Openable Window/Door	3.56m <sup>2</sup>
Required Openable Window/Door	0.67m <sup>2</sup>

Openable external door/windows meets/exceeds the minimum requirements for ventilation in this area.

**BEDROOM - TWO**

Floor Area	8.30m <sup>2</sup>
Ventilation Type	Passive External window
Existing Openable Window/Door	1.38m <sup>2</sup>
Required Openable Window/Door	0.41m <sup>2</sup>

Openable external door/windows meets/exceeds the minimum requirements for ventilation in this area.

**BEDROOM - THREE**

Floor Area	10.20m <sup>2</sup>
Ventilation Type	Passive External window
Existing Openable Window/Door	3.98m <sup>2</sup>
Required Openable Window/Door	0.51m <sup>2</sup>

Openable external door/windows meets/exceeds the minimum requirements for ventilation in this area.



Living Area



Ventilation



Ventilation



Ventilation



Ventilation



Living Area



Living Area



Living Area & ventilation



Ventilation



Area



Ventilation



Ventilation





Bedroom one



Ventilation



Ventilation



Ventilation



Bedroom two



Ventilation



Bedroom three



Ventilation



Ventilation

*Living Ventilation Standard*

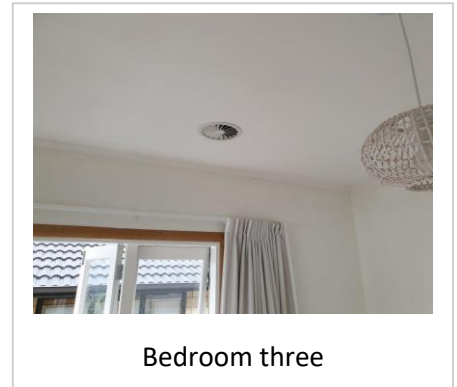
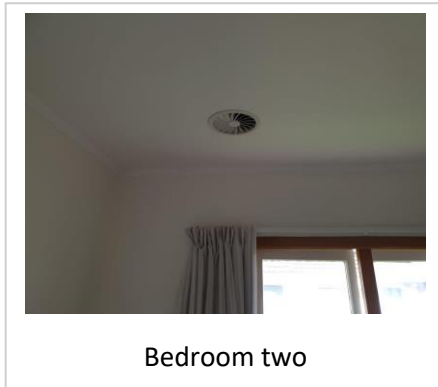
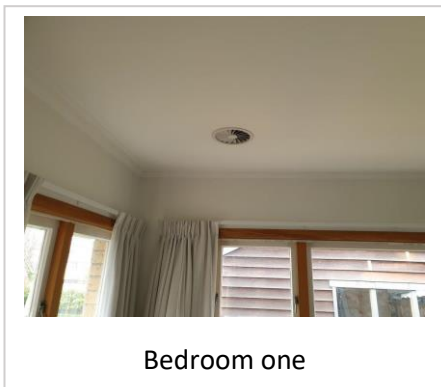
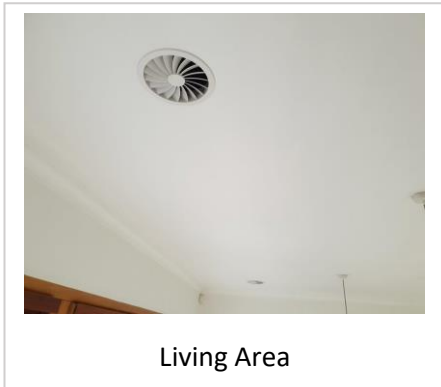
*21 Openable windows or external doors*

- (1) Each habitable space in the premises must have 1 or more qualifying windows or doors.*
- (2) The total openable area of the qualifying windows or doors in the habitable space must be at least 5% of the floor area of the habitable space.*
- (3) A window, skylight, or door is a qualifying window or door if it-*
  - (a) opens to the outdoors; and*
  - (b) is designed and built in a way that allows it to remain fixed in the open position during normal occupation of the premises.*
- (4) The openable area of a qualifying window or door is its net openable area on the internal face of the building element in which it is located.*

# HEATING

## Complies

Type	Daikin Ducted Heatpump
Capacity	12.5 kW
Required Capacity	3.5 kW



### Heating standard

#### 8 Main living room must have qualifying heaters

(1) The main living room of the premises must be heated by 1 or more qualifying heaters with a total heating capacity of at least the required heating capacity for the main living room.

(2) If the premises are not in a boarding house, the main living room of the premises is,-

- (a) if the premises have 1 living room, that living room; or
- (b) if the premises have 2 or more living rooms, the largest of them.

(3) If the premises are in a boarding house, the main living room of the premises is,-

- (a) if the facilities (as defined in section 66B of the Act) include 1 living room, that living room; or
- (b) if the facilities include 2 or more living rooms, the largest of them.

Additional heating source required to meet minimum requirements.

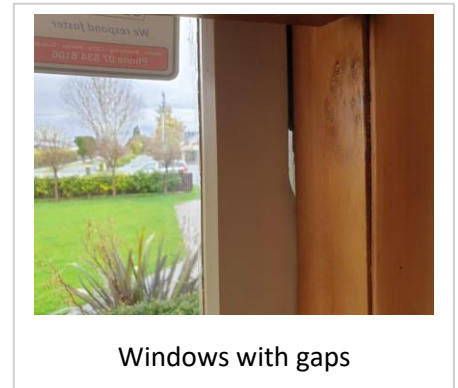
# DRAUGHT STOPPING

## Work Required

At the time of the inspection there were gaps identified in window frames creating draughts in the home affecting the living area and toilet.

No signs of dampness, mould or holes were identified.

Unused fireplace has been blocked and is free from draughts.



### Fireplace Standard

#### 25 Open fireplaces to be blocked

(1) If the premises have an open fireplace, it must be closed off, or its chimney must be blocked, in a way that prevents draughts into and out of the premises through the fireplace.

#### Unreasonable Draughts

### Draught Standard

#### 26 Gaps and holes that allow draughts

(1) The premises must be free from gaps between, and holes in, building elements that:

(a) are not intentional parts of the construction of the premises (such as drainage and ventilation openings); and

(b) allow draughts into or out of the premises; and

(c) are unreasonable.

(2) In determining whether a gap or hole is unreasonable for the purposes of sub-clause (1)(c), the following matters may be taken into account:

(a) the size and location of the gap or hole;

(b) the extent of the draught that is allowed through the gap or hole;

(c) if there is more than 1 gap or hole at the premises, the extent of the total draught that is allowed through those gaps and holes;

(d) the likely impact that a draught through the gap or hole will have on heat loss from the premises:

(e) any other relevant matters, subject to subclause (3).

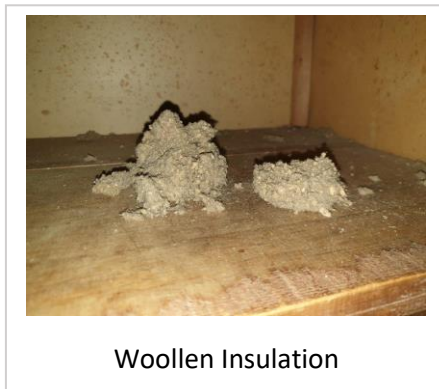
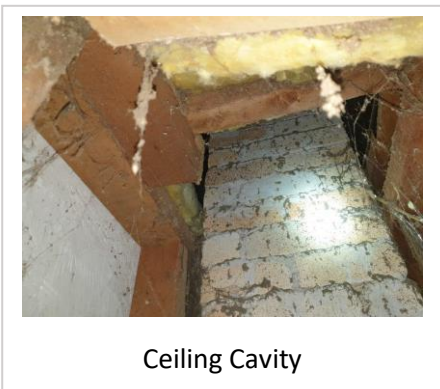
(3) In determining whether a gap or hole is unreasonable for the purposes of sub-clause (1)(c), the age and condition of the premises or tenancy building must not be taken into account.

## INSULATION

### Ceiling Insulation

#### Work Required

Type	Fibreglass Batts & Blown Wool
Condition	Unknown
R value	Unknown
Thickness	Unknown



### Floor Insulation

#### Complies

Type	Green Stuf - Polyester blanket
Condition	Good – meets requirement
R value	1.3
Thickness	60 mm



*Ceiling Insulation standard*

*13 Ceiling insulation*

*(1) The ceiling of each domestic living space in the premises must be fully covered by qualifying ceiling*

insulation.

(2) However, the ceiling is not required to be fully covered so far as-

(a) another domestic living space (whether or not part of the premises) is immediately above the ceiling; or

(b) clearances are reasonably required around any other item that is installed in or above the ceiling.

Underfloor Insulation

Type Installation date

Fibreglass Batts Unknown

Condition R value

Average - Meets minimum requirements 1.3

Underfloor Insulation Standard

15 Underfloor insulation for suspended floors

(1) If a domestic living space in the premises has a suspended floor, that floor must be fully covered by qualifying underfloor insulation.

(2) However, the floor is not required to be fully covered so far as-

(a) another domestic living space (whether or not part of the premises) is immediately below the floor; or

(b) clearances are reasonably required around any other item that is installed in or under the floor.

## SMOKE ALARMS

Complies

Type

Photoelectric Smoke Alarms – Quell & Fire Smart

Number

6

Replacement Date

Oct 2027, Oct 2027, Nov 2028, Nov 2028

Battery replacement

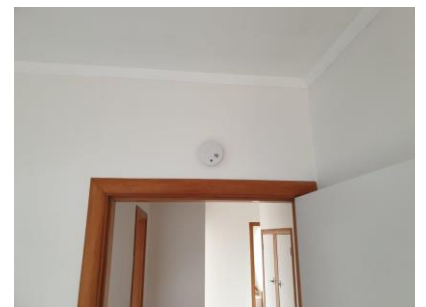
Check between tenancies



Living Area



Exp. Oct 2027



Bedroom one



Exp. Oct 2027



Bedroom two



Exp. Nov 2028



Bedroom three



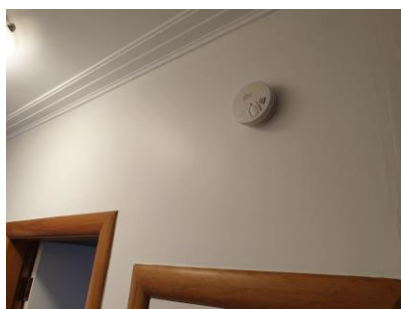
Exp. Nov 2028



Hallway/Entrance



Exp. Aug 2026



Hallway



Exp. Jan 2025

## Smoke alarms must comply with the RTA standards

A **qualifying smoke alarm** is a smoke alarm that meets the following requirements:

- (a) the alarm must be fully operational and otherwise in full working order, with no faults, defects, or damage;
- (b) the alarm must be installed at a location that accords with the manufacturer's instructions for the alarm;
- (c) the alarm's recommended replacement date must not have passed;
- (d) unless the alarm is a hard-wired alarm,—
  - (1) the alarm's recommended replacement date must be displayed on the alarm: (ii) the alarm must be a photoelectric alarm: (iii) the manufacturer's instructions for the alarm must include a certification, or other statement, to the effect that the alarm has been manufactured in accordance with (A) AS 3786—1993; or (B) an equivalent smoke alarm standard specified in the certification or other statement.
  - (2) For the purposes of subclause (1) (a) (but without limiting its generality),—
    - (a) if the alarm requires batteries for any purpose (including back-up batteries if the alarm is a hard-wired alarm), the alarm must contain all necessary batteries, which must all be compliant batteries; and
    - (b) if the alarm is a hard-wired alarm, the alarm must be connected to an electricity supply as necessary.

(3) In this regulation,—

**AS 3786—1993** means Australian Standard AS 3786—1993 (Smoke alarms)

**equivalent smoke alarm standard** means a national or international standard covering the manufacture of smoke alarms that—(a) is equivalent, or substantially equivalent, to AS 3786—1993; or

(b) is, overall, more stringent than AS 3786—1993 **recommended replacement date**, in relation to a smoke alarm, means the alarm's recommended replacement date (however described) as displayed on the alarm or as otherwise included in the manufacturer's instructions for the alarm.

## **Resultz Group NZ Healthy Homes Assessment Terms of Service**

### **SCOPE OF INSPECTION**

The scope of the inspection is limited to visual inspection of the standard components of the home, which the inspector has reasonable access to and is the inspector's clear line of sight. The purpose of the inspection is to visually identify compliance with the Residential Tenancies (Healthy Homes Standards) Regulations 2019 only. The report shall include, comments on: Heating standard, insulation standard, ventilation standard, moisture and drainage standard, draught stopping standard as per the Residential Tenancies (Healthy Homes Standards) Regulation 2019 only.

### **LIMITATIONS OF INSPECTION AND REPORT (GENERAL)**

The report is not a guarantee, warranty or any form of insurance, and is not to be used as a substitute for a final walk-through inspection, or a comprehensive building survey. This report is not a technically exhaustive investigation nor is it practicable to identify and itemise every defect or violation of the Residential Tenancies (Healthy Homes standards) Regulations 2019. The purpose of the report is to identify any readily visible items of concern at the time of the inspection. The report assumes that the property as built complies with the building code and does not investigate or comment on that.

This report:

Does not assess or certify that the property or any element of it complies with the Building code (current or at the time the building was constructed).

Does not advise on, or cover, zoning ordinance violation, geological stability, soil conditions, structural stability, engineering analysis, termites or other infestations, asbestos, formaldehyde, water or air contaminants of any kind, toxic moulds, rotting (non-visual), electromagnetic radiation, environmental hazards.

Does not appraise or assess the property value, or the cost of any repair work,

Does not cover detached buildings, sheds, underground condition of pool and spa bodies and related piping, private water systems, septic systems, saunas, specialised electronic controls of any kind, elevators, dumb waiters, water softener and purification systems, solar systems, internal system components, security systems, system adequacy or efficiency, prediction of life expectancy of any items or system, minor and/or cosmetic problems, latent or concealed defects or any items marked as not inspected within the report.

Does not cover areas that are concealed, contained, inaccessible, or cannot be seen, due to walls, ceilings, floors, insulation, soils, vegetation, furniture, stored items, systems, appliances.

Does not detect or comment on the existence of formaldehyde, lead paint, asbestos, toxic or flammable materials, pest infestation and other health or environmental hazards;

Does not investigate any underground drainage or plumbing, playground equipment, vehicles, or any other object, will not be inspected or included in the report.

Does not comment on Appliances and spa/pool equipment special cycles or features.

### **LIMITATIONS OF INSPECTION AND REPORT (WEATHER-TIGHTNESS)**

This report cannot, and does not, provide advice or investigation about whether the property inspected is a leaky home, suffers from toxic mould, rot, or fungal growth, or complies with E2/AS1 of the Building Code. This report is not to be construed as advice about the overall weather-tightness of the property or whether the property is, or is likely to be, stigmatised as a leaky home. The nature of the leaky home problem in New

Zealand means:

Systemic moisture ingress, or building defects making a building prone to leaking, which would stigmatise a building as a 'leaky home', in many cases can only be detected through a comprehensive building survey including destructive testing and external cladding removal. That is outside the scope of this inspection and report.

The presence of risk factors, or areas of elevated moisture readings, identified in this report, are intended to do no more than to alert the customer to issues that might need to be investigated further. They are not to be equated with advice that a property is or is not a leaky home.

The absence of visible risk factors or elevated moisture readings is not intended to (and cannot reliably be taken as) advice that the property is not a leaky home.

Roofs will not be accessed as part of this Residential Tenancies (Healthy Homes Standards) Regulations 2019 inspection.

### **REASONABLE ACCESS**

Reasonable access is access that is safe, unobstructed and which has a minimum clearance of 450 x 400 mm opening access door that can be safely accessed from a 3.6 m ladder and a minimum crawl space of 610 x 610 mm in the ceiling space and 500 x 400 mm opening access door and a minimum crawl space of 500mm vertical clearance for the sub floor area. Roofs will not be accessed as part of this Residential Tenancies (Healthy Homes Standards) Regulations 2019 inspection.

### **CONFIDENTIALITY AND LIMITATION OF LIABILITY**

The contents of the report, or any other work prepared by us is confidential and has been prepared solely for you and shall not be relied upon by any third parties. We accept no responsibility for anything done or not done by any third party in reliance, whether wholly or partially, on any of the contents of the report.

Subject to any statutory provisions, if we become liable to you, for any reason, for any loss, damage, harm or injury in any way connected with the completion of the Inspection and/or report, our liability shall be limited to a sum not exceeding the cost of the Inspection and report. We will not be liable to you for any consequential loss of whatever nature suffered by you or any other person injured and indemnify us in respect of any claims concerning any such loss.



# Heating Report

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## Report Details

This report was generated by

**Resultz Group  
NZ**

Address of rental property

**53 Braid Road  
Saint  
Andrews  
Hamilton**

Name of landlord

**Laura-Kate Petersen**

Report was generated on

**04 September 2020 02:46pm**

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## How to provide this heating requirement

You need 3.5kW of heating capacity to heat your living room

This is the minimum required heating capacity you need to meet the healthy homes standards, based on the information you supplied. It takes into account your local climate and the design and construction of your home. The tool makes some assumptions to keep things simple.

Your heating needs to provide this heating capacity with an outdoor temperature of  $-3^{\circ}\text{C}$

Heat pump installers need to know the outdoor temperature to work to. This is because the heating capacity of a heat pump reduces with colder outdoor temperatures. If you live somewhere cold, you may need a particular model of heat pump to give enough heating capacity.

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## Choose the right type and size of heater

You can provide this heating capacity using one or more heaters. But each heater must meet the requirements in the healthy homes standards.

Your heater(s) must be fixed and not portable. They must each be at least 1.5 kW in heating capacity.

Your heater must not be an open fire or an unflued combustion heater, eg portable LPG bottle heaters. If you use a heat pump or an electric heater, it must have a thermostat. You cannot use an electric heater for a required heating capacity over 2.4 kW unless you're 'topping up' existing heating. Smaller 'top up' heaters must meet certain conditions (see below).

The healthy homes standards treat heat pumps differently from other electric heaters. Where the tool refers to an 'electric heater', this means an electric heater that is not a heat pump.

In most cases, the right type of heater will be a larger fixed heating device like a heat pump, wood burner, pellet burner or flued gas heater. In some cases, eg small apartments, a smaller fixed electric heater will be enough. For more information about different heating options visit the [Energy Efficiency and Conservation Authority's website](https://www.energywise.govt.nz/at-home/heating-and-cooling/). (<https://www.energywise.govt.nz/at-home/heating-and-cooling/>)

You can still use heaters that don't meet these requirements. They won't need to be removed but they can't contribute to the heating capacity you need to meet the healthy homes standards.

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## Top up existing heating

If you're adding a new heater to a room with existing heating, each heater must meet the requirements in the healthy homes standards, with one exception. If your existing heating doesn't have the required heating capacity, you can add a smaller fixed electric heater to 'top up' your heating. If you do, you must meet all these conditions:

- you installed your existing heating before 1 July 2019
- each of your existing heaters meets the general requirements for heaters (listed above) and is not an electric heater (except for a heat pump)
- the required heating capacity is more than 2.4 kW, and
- the 'top up' you need is 1.5 kW or less.

For example, if you have a heat pump with a heating capacity of 3.3 kW, but you need a total heating capacity of 4.5 kW, you can add a fixed 1.5 kW electric heater with a thermostat to meet the standard. See further examples below.

You don't need to add more heating if you have one or more existing large heaters that meet all these conditions:

- were installed before 1 July 2019
- each have a heating capacity greater than 2.4 kW
- meet the requirements in the standards, and
- have a total heating capacity that's at least 90% of what you need.

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## Disclaimer

This tool is a 'heating capacity calculator' for the purposes of the Residential Tenancies (Healthy Homes Standards) Regulations 2019. As well as determining the required heating capacity, the Heating Assessment Tool will also provide information about the type of heating device that, if installed, would achieve compliance with the heating standard.

When the Heating Assessment Tool is used correctly it is intended to presume the required heating capacity for the main living room of a specific rental premises. Any person using it in good faith is entitled to rely on the report produced as being the correct result based on the information entered. Misuse of the Heating Assessment Tool may cause an incorrect result and impact on a landlord's compliance with the heating standard. [Read the full disclaimer. \(https://www.tenancy.govt.nz/about-tenancy-services/disclaimer/#id\\_30551108-heating-assessment-tool-disclaimer\)](https://www.tenancy.govt.nz/about-tenancy-services/disclaimer/#id_30551108-heating-assessment-tool-disclaimer)

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## Examples

Here are some examples showing a required heating capacity and how you could provide heating that meets the healthy homes standards.

Example 1:

You need a total heating capacity of 5 kW. You have a heat pump, installed in 2018, with a heating capacity of 3.7 kW. You can add a fixed electric heater that is at least 1.5 kW to 'top up' your heating.

Example 2:

You need a total heating capacity of 8 kW. You have a fixed heat pump with a heating capacity of 4 kW and an unflued gas heater with a heating capacity of 3 kW. The unflued gas heater is an unacceptable heater type, which means it can't contribute to the required heating capacity. You can meet the standards by installing a 4

kW (or larger) qualifying fixed heater where it can heat the main living room directly. You cannot add an electric heater to 'top up' your heating because the 'top up' you need is over 1.5 kW.

Example 3:

You need a total heating capacity of 3.5 kW. You have a fixed heat pump with a thermostat and heating capacity of 3.3 kW, installed in 2014. You don't need to add any more heating because your existing heating is a qualifying, larger heater that achieves at least 90% of the required heating capacity.

## Rental property details

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### About your home

#### Your home's age and location

When was your home built: **Before 1978**

Region: **Waikato**

Council rates paid to: **Hamilton City Council**

Zone: **1**

Assumed external temperature: **-3°C**

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### About your living room

#### Main living room

Main living room area: **18m<sup>2</sup>**

Number of staircases: **0**

Additional level 1 area: **0m<sup>2</sup>**

Additional level 2 area: **0m<sup>2</sup>**

---

### Level 1

#### Wall 1

Type of wall: **external**

Length: **5.03m**

Height: **2.54m**

Area: **12.78m<sup>2</sup>**

Calculated area: **12.78m<sup>2</sup>**

R-Value: **0.5**

Default R-Value **0.5**

Wall Transmission Heat Loss: **1.11kW**

Number of windows: **2**

Number of door glazing: **1**

#### Wall 1: Window 1

Glazing type: **single**

Length: **0.74m**

Height: **1.96m**

Area: **1.45m<sup>2</sup>**

Calculated area: **1.45m<sup>2</sup>**

R-Value: **0.15**

Default R-Value **0.15**

## Wall 1: Window 2

Glazing type: **single**

Length: **0.74m**

Height: **1.96m**

Area: **1.45m<sup>2</sup>**

Calculated area: **1.45m<sup>2</sup>**

R-Value: **0.15**

Default R-Value **0.15**

## Wall 1: Door 1 glazing

Glazing type: **single**

Length: **1.51m**

Height: **1.96m**

Area: **3m<sup>2</sup>**

Calculated area: **3m<sup>2</sup>**

R-Value **0.15**

Default R-Value **0.15**

## Wall 2

Type of wall: **internal**

Length: **3.63m**

Height: **2.54m**

Area: **9.22m<sup>2</sup>**

Calculated area: **9.22m<sup>2</sup>**

R-Value: **0.4**

Default R-Value **0.4**

Wall Transmission Heat Loss: **0.24kW**

Number of windows: **0**

Number of door glazing: **0**

## Wall 3

Type of wall: **internal**

Length: **5.03m**

Height: **2.54m**

Area: **12.78m<sup>2</sup>**

Calculated area: **12.78m<sup>2</sup>**

R-Value: **0.4**

Default R-Value **0.4**

Wall Transmission Heat Loss: **0.34kW**

Number of windows: **0**

Number of door glazing: **0**

## Wall 4

Type of wall: **internal**

Length: **3.63m**

Height: **2.54m**

Area: **9.22m<sup>2</sup>**

Calculated area: **9.22m<sup>2</sup>**

R-Value: **0.4**

Default R-Value **0.4**

Wall Transmission Heat Loss: **0.24kW**

Number of windows: **0**

Number of door glazing: **0**

## Floor:

Floor Area: **18.25m<sup>2</sup>**

Space below floor: **external**

Standards compliance: **all**

Standards percentage: **100%**

Standards area: **18.25m<sup>2</sup>**

Standards R-Value **1.3**

Standards R-Value default **1.3**

Non-standards percentage: **0%**

Non-standards area: **0.00m<sup>2</sup>**

Non-standards R-Value **0**

Non-standards R-Value default **0.5**

Internal percentage: **0%**

Internal R-Value **0**

Internal R-Value default **0.5**

External percentage: **100%**

External R-Value **1.3**

External R-Value default **1.3**

Total area: **18.25m<sup>2</sup>**

Internal area: **0.00m<sup>2</sup>**

External area: **18.25m<sup>2</sup>**

Internal Transmission Heat Loss: **0.00kW**

External Transmission Heat Loss: **0.29kW**

Standards Transmission Heat Loss: **0.29kW**

Non-standards Transmission Heat Loss: **0.00kW**

Total Transmission Heat Loss: **0.29kW**

## Ceiling:

Floor Area: **18.25m<sup>2</sup>**

Shape of ceiling: **flat**

Space above ceiling: **external**

Standards percentage: **100%**

Standards area: **18.25m<sup>2</sup>**

Standards R-Value **2.4**

Standards R-Value default **2.4**

Non-standards percentage: **0%**

Non-standards area: **0.00m<sup>2</sup>**

Non-standards R-Value: **0**

Non-standards R-Value default: **0.35**

Internal percentage: **0%**

Internal R-Value: **0**

Internal R-Value default: **0.5**

External percentage: **100%**

External R-Value: **2.4**

External R-Value default: **2.4**

Flat area: **18.25m<sup>2</sup>**

Irregular area: **0.00m<sup>2</sup>**

Total area: **18.25m<sup>2</sup>**

Internal area: **0.00m<sup>2</sup>**

External area: **18.25m<sup>2</sup>**

Internal Transmission Heat Loss: **0.00kW**

External Transmission Heat Loss: **0.16kW**

Standards Transmission Heat Loss: **0.16kW**

Non-standards Transmission Heat Loss: **0.00kW**

Total Transmission Heat Loss: **0.16kW**

Number of skylights: **0**

## Level Summary:

Volume of Level: **46.36m<sup>3</sup>**

Transmission Heat Loss: **2.39kW**

Ventilation Heat Loss: **0.33kW**

Additional heating-up power: **0.73kW**

## Result

Transmission Heat Loss: **2.39kW**

Ventilation Heat Loss: **0.33kW**

Additional heating-up power: **0.73kW**

Heat load of the heated space: **3.5kW**

Heat load of the heated space (w/o heating-up power):**2.72kW**