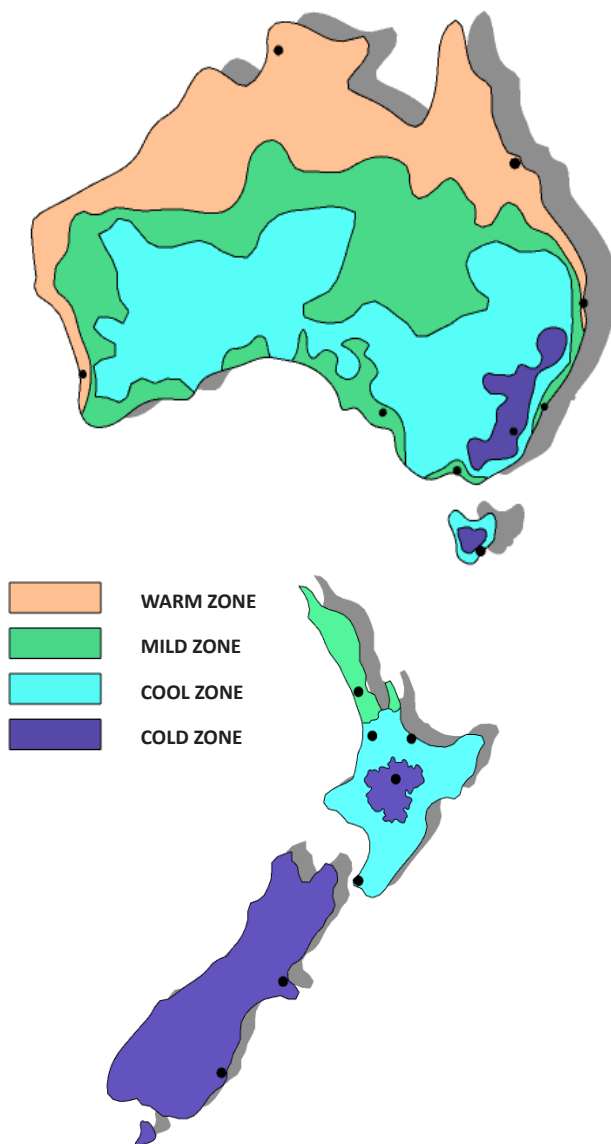## WHAT IS HEAT DEMAND?

To establish the exact kW output required to heat your home in order to maintain a minimum temperature on the coldest day in winter, the heat demand of your property needs to be calculated. A heat demand calculation assesses the design and construction of the building, factoring in the rate of heat loss or gain, and the kW output needed to sustain a consistent temperature. A heating appliance should be able to maintain the living space of a house at a healthy minimum of 18^0 C, through the coldest days of winter.

WHAT DO I NEED TO DO?

1. Gather information about your property and its geographical location.

2. Measure the areas to be heated and assess the variables that will influence the final heating area calculation.

3. Calculate the heat demand in kW, and match this to an Escea Fireplace. The heat demand should not exceed the kW output of the fireplace.

WHAT CLIMATE ZONE AM I IN?

Use the diagram to work out which climate zone you are in. Your geographical location will affect the kW output that will be required to heat your home.

- **WARM ZONE**
- **MILD ZONE**
- **COOL ZONE**
- **COLD ZONE**

Please contact the Escea Architectural Advisory Team for further assistance.
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WHAT ARE MY HEATING AREA REQUIREMENTS?

- Determine the total space for heating by measuring the width and depth of the room.
- Is the room you wish to heat permanently open to other rooms or hallways? If yes, add the area of the room to your total space to heat.
- Ensure the Escea Fireplace output matches the space; too low may be insufficient on cold days, while too high may result in running on low most of the time.
- Factor in additional space for designs like tall, pitched ceilings or open stairways. These spaces will be heated first.
- If the room is smaller than a gas fireplace's kW output on low, enable the *over temp shutoff* mode.

HEATING AREA CALCULATION

1 For your geographical location and climate zone, establish your average lowest winter temperature.

Climate Zone	Ave. Low Winter Temp.	Approx. Heating Area /m^2
Warm Zone	9º C and above	1kW/ 16m^2
Mild Zone	Between 6º and 9º C	1kW/ 14m^2
Cool Zone	Between 3º and 6º C	1kW/ 12m^2
Cold Zone	Between 0º and 3º C	1kW/ 10m^2
Extreme Cold Zone	0º C and below	1kW/ 8m^2

2 Apply any of the following variables to the approximate heating area to establish a specific heating demand. Add or deduct the variables where applicable.

Do you exceed the minimum insulation levels?	+ 1m^2
No Insulation in the Ceiling?	- 1m^2
House built on Piers or Piles (wooden floor)?	- 0.5m^2
Ceiling height higher than 2.4m but less than 3m?	- 0.5m^2
Ceiling height above 3m?	- 0.7m^2
Room glazing area more than 15% of total wall area?	- 1m^2
Room glazing area more than 30% of total wall area?	- 2m^2
No carpet on the floor?	- 0.5m^2
Curtains or Drapes installed?	+ 1m^2

3 Match the heating demand required to the desired fireplace. The fireplace output should always exceed the heating demand.

Example: A single story home constructed with above min. insulation levels in a mild zone. The 10m x 6m room has a ceiling height of 2.7m and can be completely closed off. Less than 15% glazing area, with full length curtains installed. Floor is polished concrete slab construction.

Mild zone	1kW/ 14m^2
Ceiling Height = 2.7m	- 0.5m^2
No floor coverings	- 0.5m^2
Above minimum insualtion levels	+ 1m^2
Curtains installed	+ 1m^2
Add or Deduct total variables	1kW/ 15m^2
Room size /adjusted heating area	= 60m^2/ 15m^2
Heat Demand	**= 4kW**

Due to ongoing product development, Escea reserves the right to change any specifications listed in this without notice. Escea provides this information as a guide only and a professional home heating assessment may be required for situations outside the variables described above. The stated kW output is tested by an independent laboratory.