

What are  
the primary advantages  
of passive houses?



### Extremely low energy use

90-95% less heating and cooling energy use (max 10W/sq.m). This means that a 100 sq. metre house can be heated with ten light bulbs.

60-80% overall energy savings compared to NZ Building Code compliant buildings.

### Thermal comfort and superior air quality

Consistent temperature in each room of the house.

Minimum temperature of 20°C. throughout the year.

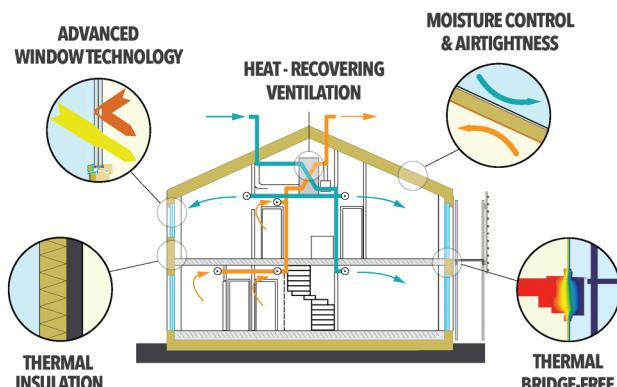
Dry, warm, healthy and comfortable environment which helps reduce bronchial and asthmatic conditions.

Consistent supply of fresh, heated outdoor air.

Pests and allergens filtered from outdoors.

### Low carbon footprint

Minimal energy and fossil fuel consumption.



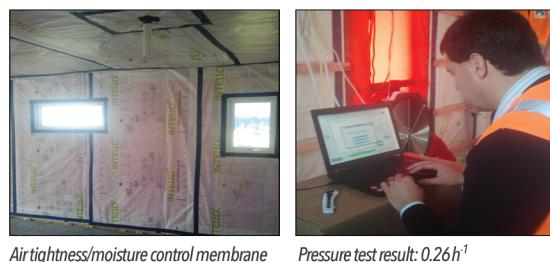
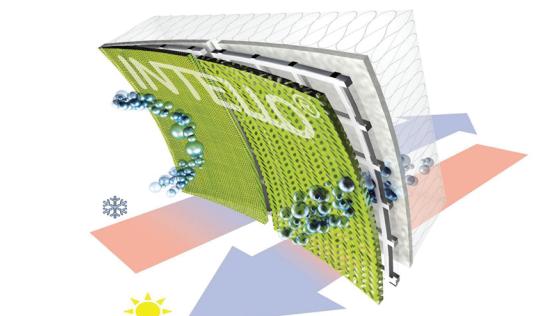
*The five fundamental requirements of  
passive house construction*

How are  
passive house criteria  
achieved?

Certification of a passive house is granted after strict criteria have been met using the five fundamental construction requirements and proven test results.

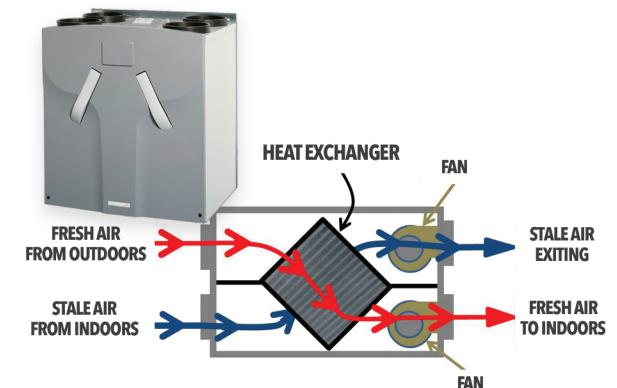
Heating load	10W/m <sup>2</sup>
Annual space heat/cooling demand	≤ 15kWh(m <sup>2</sup> a)
Air tightness $n_{50}$	≤ 0.6h <sup>-1</sup>
Annual primary energy needs	≤ 120kWh/(m <sup>2</sup> a)

### 1. Moisture control and airtight building

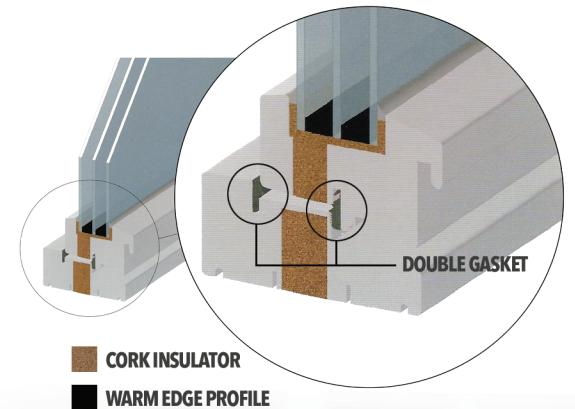


### 2. Heat-recovering ventilation system

Fresh air is drawn from the outside and through the heat exchanger. At the same time, stale air is extracted from the house.



### 3. Advanced window technology



*...continued overleaf*