

All houses contain moisture because of the every-day household activities that produce moisture, such as: breathing, cooking and cleaning. Tightly sealed windows and doors stop the uncontrolled and accidental ventilation that older fittings allow so it is important for homeowners to understand this and vent homes accordingly to ensure a safe environment for you and your family.

Moisture and air movement

New Zealand crown entity Energy Efficiency and Conservation Authority (EECA) state 40% to 60% relative humidity is ideal in your house¹. Figures below 30% and above 70% put the health and well-being of you and your family at risk and can also be detrimental to the building fabric.



Winter ventilation: ten minutes of airing through windows or doors opened on opposite walls is the best kind of situational ventilation. Fresh air is supplied to the whole indoor area, and the stored heat warms this air without great loss.

Whether you are retrofitting or moving into a new home for the first time with tight sealing windows and doors you will need to consider ventilation. When closed, your new windows and doors will not allow passive movement of air and moisture - such is the case with typical New Zealand homes. This is of course a better situation, as you will now have control over air and moisture movement.

A large number of everyday activities cause the air humidity to rise in your house e.g. cooking and cleaning, showering, clothes drying, humans and pets breathing, and plant transpiration. Additionally, building materials introduce a lot of moisture to new houses and need to be well vented for several months.

Of course it is not only the air's moisture content that is responsible for a healthy indoor environment. Other constituents like carbon dioxide, carbon monoxide, odours, and suspended particles are contributory factors if we are to satisfy our body's need for fresh air.



Every house produces moisture. It is essential to remove as much as possible at its source through smart ventilation practices.

Correct, regular airing is becoming more important than ever, especially in better insulated living spaces. Whereas earlier draughty houses and loose windows provided a constant, although unintended ventilation, houses today are well insulated and sealed for the minimum possible loss of heat. We often forget though the importance of a sensible ventilation regime for a healthy indoor environment. When there is too little ventilation the relative air humidity rises constantly, quickly giving rise to a damp indoor climate that promotes the growth of mould. For this reason it is important that a healthy balance is reached between sensible ventilation behaviour and the minimum heat loss. This safeguards, on the one hand sustainable energy consumption, and on the other, the integrity of the building fabric that would otherwise suffer from the effects of moisture. In the absence of an automated ventilation system that always ensures an adequate supply of fresh



air – which of course is the ideal solution, ventilation involves opening windows manually.

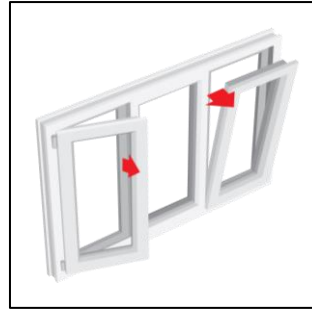
Recommendations

EECA suggest making ventilation a part of your daily routine²:

- The simplest and cheapest way to ventilate your home is to open doors and windows regularly, allowing fresh air into your home.
- In summer, open windows and doors in different parts of your home to create a cross-draught, which will circulate air and help keep your house cool and dry.
- In winter, air your house at least once a day for a few minutes with wide open doors and windows to create a cross-draught. This will quickly replace stale indoor air with fresh outdoor air.
- To avoid condensation problems, ventilate when you turn off the heating, for example before you leave the house in the morning and just before you go to bed.
- Ventilating your bedroom overnight is also important for maintaining air quality, reducing excessive moisture and the risk of mould growth. Where possible keep windows slightly ajar on a hinge - a finger's width should be enough.
- Make sure you've got good extraction systems in wet areas of your home, such as your bathroom, laundry and kitchen. Fans or extractors should vent to the outside, not into your ceiling space or where they will recirculate damp air. Make sure extractor fans are:
 - properly sized and located for the type of room.
 - turned on before having a shower or bath - and shut the bathroom door. Leaving the bathroom window open slightly allows airflow into the bathroom and will improve the extractor fan's effectiveness.
 - run for a few minutes after a shower or bath - with the bathroom door shut.
 - cleaned regularly - to maintain their performance.

Tilt and turn benefits

Tilt and turn windows and doors allow the same sash unit to hinge vertically and hinge at the bottom – simply determined by the handle position. The tilt opening is ideal for providing ventilation.



Tilt and turn windows and doors. In the image shown, both opening window (or door) units hinge vertically and at the bottom.

Window hardware option

Standard tilt and turn windows open 120mm in tilt position. A hardware option is available to open either 120mm or 10mm simply determined by position of the handle. The 10mm opening provides a steady supply of fresh air along with maximum security.



Locking tilt restrictor provides a 10mm opening for trickle ventilation for day or night and maintains maximum security.





NK WINDOWS
uPVC Systems

NK Windows - Home Ventilation

Version: 02 **Date:** May 2016

Remote opening

Ventilation for high-access windows is made simple with remote openers – either using a wired or wireless control.

Options include smart home automation functionality where windows open and close depending on pre-determined temperature, wind and humidity thresholds and/or timing settings.

¹ <https://www.energywise.govt.nz/at-home/dampness/>

² <https://www.energywise.govt.nz/at-home/ventilation/ventilation-checklist/>

