



SANCO® tips

Ventilating correctly - living healthily

Well sealed windows and high quality insulating glass with a thermal insulating coating save energy and provide a pleasant atmosphere – but as a result the risk of the formation of mould and mildew on the walls increases. This apparent contradiction is easy to explain.

Sources of moisture

Even with the completely normal usage of the home, large amounts of water vapour are formed that must be absorbed by the air: for instance due to cooking, washing, drying laundry, taking a bath, taking a shower or washing the dishes. Even the people who live there are sources of moisture: per day a healthy person gives off around 0.5 litres of water to the atmosphere through the skin and even more than a litre by breathing. However, the air cannot absorb unlimited amounts of water vapour. At a 'relative humidity' of 100 % the air is saturated. This limit depends on the air temperature: at 0 °C one cubic metre of air can absorb a maximum of 5 grams of water vapour, at 20 °C some 17 grams and at 30 °C as much as 30 grams.

'Condensed water' on cold surfaces

If the warm room air now comes into contact with colder surfaces, it cools down. At this point the air can no longer hold as much water vapour, instead it gives up some of it as water. Anybody who wears glasses is familiar with this effect on entering a heated room on a cold day: their glasses mist up.

Modern glazing saves energy

Old windows were mostly draughty and had no sealing. Although this meant a continuous heat loss and a large waste of energy, the air indoors containing large amounts of water vapour was continuously and automatically replaced with drier air from outdoors. Conversely, modern rooms are very well sealed and permit only little air movement.

Modern glazing also saves energy: coated thermal insulating glass with U_g values of down to 1.0 W/m²K often has a higher surface temperature than the inner surfaces of the exterior walls – as a result only little heat is lost through the glass. However, this also means that the condensation no longer forms on the panes of glass as in the past, but instead on the walls – the coldest part of the room: and there mould can also form.

For this reason regular ventilation is so important.

More comfort due to new windows



1. Ventilating correctly

Leave the windows fully open for around 10 minutes (full ventilation). Brief ventilation across the room is particularly effective (cross ventilation). A large amount of humidity can be removed from the room in a short time in this way.

2. Timing

Ventilate rooms where you live three times a day, in the morning, at midday and in the evening, as described in point 1.

3. In case of extended absence

The windows should not be left open in a tilted position. In this position elements near the window will cool so much that condensation can form. Also heating energy will be lost continuously. For physical reasons, there is always more humidity in heated room air than outside, particularly in damp rooms such as the



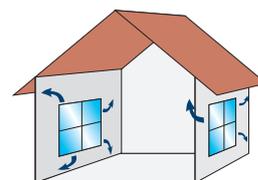
bathroom, kitchen, etc. Even if it is raining, snowing or foggy outside during the cold season, you can still ventilate unhesitatingly. The idea that you will let in damp air while ventilating is not correct, on the contrary: you will release humidity to the outside.

- Correct ventilation (full ventilation) saves energy, is more hygienic, and prevents damage due to moisture in the living space.
- Do not ventilate continuously with the window tilted.
- If windows mist up on the inside, immediately ventilate vigorously.
- After a shower or bath, ventilate vigorously, only open bathroom door again after ventilating.
- If laundry is dried indoors, the relative humidity will increase.

Correct ventilation will save energy, reduce heating costs, reduce pollution and increase the level of comfort at home.

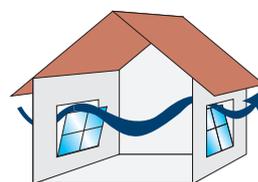
Forced ventilation

Defects in the building such as incorrectly sealed windows, doors and wall joints resulted in forced ventilation in the past, high energy losses were the consequence.



Continuous ventilation

If, e.g., windows are always left ajar, energy is wasted, air is not completely replaced. Furniture and walls are subject to extreme temperature changes.



Full ventilation

The considerably more effective method of replacing the room air. The window is left fully open and the air is replaced in approx. 10 minutes. As a result the air change takes place very quickly, there is no cooling of the structure.



Cross ventilation

Ventilating for ten minutes across the room through two open windows on opposite sides of the room is the best method of ventilation. All the room air is replaced, the heat stored in the walls and floor quickly re-heats the fresh air without large losses.

