

## How to prevent mildew and fungus – Tips for a healthy atmospheric environment

To prevent mildew and fungus on walls and furniture, the relative humidity must not be too high. You can reach this by the following measures:

### Heat sufficiently

- Even in autumn and spring, the following temperatures should be maintained (while residents are present): in the living room, the children's room and kitchen 20°C, in the bathroom 21°C, in the bedrooms 16°C.
- At absence during the day, the heating must never be turned off completely. Repeated cooling-down and heating-up needs more energy and is more expensive than keeping a slightly reduced average temperature (reduce temperature 2°C to 3°C).
- Keep interior doors between differently heated rooms closed day and night. Do not heat bedrooms via living room. By doing this, warm air, i.e. humid air, will be transported in the not heated bedroom and condenses on the cool walls/surfaces.

### Ventilate often and efficiently

- Correct ventilation means: Short and intense cross ventilation. Open all windows and doors to produce a complete air exchange. If this is not possible, open all windows wide while keeping the inner doors closed. To tilt the window is not effective and wastes heating energy. Do not ventilate from one room to another; ventilate directly outwards.
- Ventilation interval: In principle, ventilation should be done according to the hygrometer rather than to the hour. When the hygrometer shows more than 60% relative humidity, an air exchange is necessary. However, the following rules of the thumb have proved to be of value:
- To ventilate once a day is not sufficient. In the morning a complete air exchange should be done by totally opening all windows at once (cross ventilation). In the forenoon and afternoon ventilate again those rooms where people have stayed. In the evening, a complete air exchange should be done again including the bedrooms.
- In your absence during the day, ventilation is of course not possible but also not necessary. In this case it is sufficient to cross ventilate in the mornings and evenings.

- The cooler the room temperature, all the more ventilation should take place.
- If new, especially tight isolated glass windows have been installed, ventilate more often than before. You will still save heating energy compared to the old windows.
- Condensation water on windows is a sign of high relative humidity. Ventilate immediately.
- Even by rain or snow you must ventilate the rooms. The cooler outside air still contains less humidity than the warmer inside air. Just avoid that it rains inside.
- Duration of ventilation: How long you have to ventilate depends on the difference between the inside temperature and the outside temperature and on how strong the wind is blowing. The cooler it is outside and the stronger the wind blows, the shorter you have to ventilate. 5 to 10 minutes is a good indication. Even at low difference of temperature and while calm, 15 minutes cross ventilation normally is sufficient.
- While cooking, taking a bath or a shower always turn on the ventilator. Air ducts narrow over time due to deposition of dust and dirt thus lowering the efficiency of the ventilation. Therefore, they should regularly (in intervals of max. 5 years) be cleaned professionally.
- By generation of large amounts of water vapour, e.g. by cooking, ironing or especially by taking a shower or bath, immediately ventilate directly outwards. Keep doors closed to avoid the vapour dispersing in the apartment. If the bathroom has no windows, ventilate on the shortest way through another room.
- If you dry laundry in your apartment, keep the door of the room closed and ventilate it more often. If possible, avoid drying laundry in your apartment.

### Further tips

- In older houses without exterior insulation, position furniture (e.g. big wardrobes) in a distance of 10 to 15 cm from outer walls.
- Air humidifiers are mostly unnecessary and are a source of microbes.
- Big aquariums and many houseplants are a considerable source of humidity. Keep this in mind when you arrange your apartment.