

## **Ventilation in WUR buildings**

*For all WUR-employees: Take note of and adhere to the instructions posted at the entrance of each room! Always follow the customary hygiene measures.*

The media coverage on the spread of COVID-19 through ventilation systems has been extensive. WUR has taken measures to ensure a safe study and work environment.

From the onset of the corona crisis, the RIVM has stressed the importance of proper ventilation. The first guidelines on the subject were posted on the RIVM website in June 2020. Although the general message remains the same, studies have led to further detailing and sometimes adjustment of the RIVM ventilation guidelines. Of late, there is a particular focus on the dos and don'ts. WUR buildings are continuously monitored to see if the most recent government advice calls for additional measures to ensure a safe study and work environment. If necessary, these measures are implemented. WUR buildings always meet the RIVM guidelines.

### **Amount of ventilation**

Ventilation is introducing fresh outdoor air and expelling used air. The RIVM states that buildings must be properly ventilated in accordance with the Dutch Buildings Decree. This decree stipulates how much air must be ventilated per type of indoor space. The minimum ventilation threshold depends on the number of people present in a space. This applies to most indoor areas, such as education facilities.

All WUR education facilities have a higher level of ventilation than required by the Buildings Decree to which the RIVM refers. In labs and practical locations, the ventilation is even well above the required level. At the start of the corona measures in 2020, the ventilation levels in all WUR buildings were recorded and compared to the number of people that may be present in the individual spaces. In some areas, particularly in offices, this led to a reduction in the maximum occupancy. The location managers have indicated the maximum occupancy with signs at the entrance to each room or space. By reducing the occupancy, we ensure that everyone has sufficient ventilation in accordance with the RIVM guidelines.

There is no limitation of the standard occupancy in teaching rooms as the ventilation capacity is (more than) sufficient.

In short: pay attention to the signs at the entrance of rooms and adhere to the instructions. If there is no instruction, the room is safe for use with the usual hygiene measures.

### **Rooms with no mechanical ventilation**

In a few older buildings, there are still some offices that only have windows that can be opened for fresh air or that have ventilation grids (dauwerluftung). Rooms with windows that can be opened may only be used if all the windows are opened, and even then, with a limited number of people. The location managers have indicated the maximum occupancy at the entrance. Rooms with ventilation grids may be used by limited numbers if the grids and the door are opened. The rooms in question have signs at the door

indicating these guidelines and restrictions. The occupants are advised to open the windows of such rooms as well.

### **Recirculation**

Recirculation is the introduction of used air into a room or space. This may aerosols containing coronavirus particles to be spread. Although the level of threat is not clear, the RIVM states that it cannot be ruled out entirely.

The RIVM distinguishes between a) recirculation where recirculated air can spread from room to room and where air travels through ventilation shafts within the building, and b) recirculation in local systems where the air travels short distances from person to person.

In WUR buildings, there are barely any ventilation systems that recirculate at building level, and, in March 2020, the few systems that did so were shut down.

There are, however, buildings that recirculate at a local level. For example: by local cooling units in the ceiling or face of the building. In combination with proper ventilation and air extraction, this poses no extra risk. With proper ventilation, aerosols, particles that may contain the virus are removed sufficiently and form no additional risk. However, local ventilation systems do blow air from one person to the next. The use of mobile air conditioners and table fans is discouraged if they cause airflow from one person to the next.

### **CO2 measures**

In some rooms, the ventilation level is adjusted in accordance with the CO2 levels measured. This means that there is limited to no ventilation if no one is present and that ventilation starts only sometime after people have entered the room, which causes the CO2 level to increase. In the beginning, when people enter the room, there is thus little ventilation. To prevent this, an adjustment has been made so that these rooms are now ventilated beforehand. In practice, this means the ventilation system is switched on 2 hours before opening and remain on for two hours after closing to flush the room.

### **Ventilation system maintenance**

Facilities and Services has set up a maintenance contract to ensure the systems are safe and trustworthy. Our focus on timely renewal of the filters and adjusting the systems to the RIVM guidelines is unwavering. Where needed, maintenance on climate installations has been expedited. In cases of doubt, measurements on the systems were conducted in 2020.

### **Cooling and heating**

Many buildings are cooled or heated through the influx of heated or cooled air through the ventilation systems. Moreover, local cooling or heating (floor) units may be used. The adjustments in the ventilation systems, as well as the increased opening of windows and doors in unventilated rooms, may lead to less-than-ideal temperature conditions.

### **Do's en Don'ts for natural ventilation**

If you are the only person in a room, limited ventilation is never an issue. If you are working in a room that lacks mechanical ventilation with several people at once, extra outdoor air must be let in through open doors and/or windows, both during warm and cold days. Signs at the entrance of the rooms will indicate the maximum occupancy and the ventilation instruction.

### **I wish to use a table fan**

If you are the only person in the room, this is not a problem. If you share the room with others, you must assess whether the air does not flow directly towards someone else. Therefore, the RIVM advises against the use of table fans. The use of multiple fans may offer a solution.

Contact the Health and Safety coordinator for advice on the use of a fan and the registration thereof. The fan must be checked for safety annually. In a room with a climate control system, we advise against the use of extra fans.