

Ventilation and Air Conditioning during the coronavirus pandemic (Keeping occupied spaces well ventilated)

This guidance is based on the latest information and may be updated as and when new information becomes available.

Update 2 – Changes (3rd November 2020)

The changes contained within this update is to reflect the updated guidance produced by the DFES dated 22nd October 2020. Schools and academies are able to ask for further support including a ventilation audit of their building. This service is provided by the biT team. If you already buy back into the biT buy back service, this advice will already be included within your buyback plan. If you do not buy back the service, a charge will be payable for this. Please contact the biT team on 01952 384500

Once the school is in operation, it is important to ensure it is well ventilated and a comfortable teaching environment is maintained.

This can be achieved by a variety of measures including natural and mechanical ventilation systems

Principles for natural ventilation

- Employers must, by law, ensure an adequate supply of fresh air in the workplace and this has not changed.
- Good ventilation can help reduce the risk of spreading coronavirus, so focus on improving natural ventilation, preferably through fresh air or mechanical systems.
- Where possible, consider ways to increase the supply of fresh air, for example, by opening windows and doors (unless fire doors).
- Also consider if you can improve the circulation of outside air and prevent pockets of stagnant air in occupied spaces. You can do this by using ceiling fans or desk fans for example, provided good ventilation is maintained
- The risk of transmission through the use of ceiling and desk fans is extremely low providing there is good ventilation in the area it is being used, preferably provided by fresh air

Some practical examples to consider for good natural ventilation:

- When weather conditions allow, increase as much as possible fresh outdoor air by opening windows and doors.
- Open windows and external doors 15 minutes prior to the building being occupied
- Opening a number of windows and external doors to create cross flow of natural air will improve the natural ventilation and be more effective.
- In cooler weather windows should be opened just enough to provide constant background ventilation, and opened more fully during breaks to purge the air in the space). Opening internal doors can also assist with creating a throughput of air
- During the colder months consider the thermal comfort of users within the room/building. Windows can be adjusted to suit weather conditions but should not be closed while the building is in occupation. During cooler weather, it may be necessary to have the room heating on more than normal. Heating should be used as necessary to ensure comfort levels are maintained particularly in occupied spaces

- You may also need to consider relaxing existing dress codes to allow warmer clothes to be worn.
- Identify the windows/ doors you are going to open and try to locate them where they are not close to users if possible.
- Consider rearranging furniture where possible to avoid direct drafts.
- Consider opening high level windows first to increase the natural ventilation and reducing the impact of draughts on users
- Consider the windows and doors that you are opening and if doing so poses a safety or security risk to children using the facility they should not be opened unless supervision can be maintained at all times.
- Decrease occupancy in areas where natural ventilation cannot be increased

Principles for air conditioning/ ventilation systems

The key actions are:

- Understand your heating and ventilation system.
- If you're unsure about your heating and ventilation system, ask the advice of your Property's Mechanical/Electrical Surveyor in the first instance. The biT team are able to assist you. If you already buy back into the biT buy back service this advice will already be included within your buyback plan. If you do not buy back the service a charge will be payable for this service. Please contact the biT team on 01952 384500
- Mechanical ventilation systems – these should be adjusted to increase the ventilation rate wherever possible, and checked to confirm that normal operation meets current guidance (if possible, systems should be adjusted to full fresh air or, if not, then systems should be operated as normal as long as they are within a single room and supplemented by an outdoor air supply)
- Run your ventilation at higher volume flow rate; this may require changes to CO2 set points (for both mechanical ventilation and automated windows)
- Avoid recirculation/transfer of air from one room to another unless this is the only way of providing adequately high ventilation to all occupied rooms
- Recirculation of air within a single room where this is complemented by an outdoor air supply is acceptable
- Where thermal (or enthalpy) wheels are installed to recover heat, then a competent engineer/technician should check that the configuration and operating conditions are such that any leakage across the device is from the supply side to the extract side, to minimise the risk of transferring contaminated air into the supply.
- Additional technical information is available off the above HSE link, to the Chartered Institution of Building Services Engineers - CIBSE website and various guidance documents.
- The Ventilation guidance from CIBSE (attached and on their website), advises to assess the risk from the building's ventilation systems in relation to Covid 19. It summarises the different types of systems in Section 3 and makes recommendations around each in Section 4.

The risk of air conditioning spreading coronavirus (COVID-19) in the workplace /– educational premise is extremely low as long as there is an adequate supply of fresh air and ventilation.

You can continue using most types of air conditioning system and heating fan convectors (warm air fan heaters) as normal as long as a good supply of fresh air is maintained within the room

The Ventilation guidance from CIBSE (attached and on their website), advises to assess the risk from the building's ventilation systems in relation to Covid 19. It summarises the different types of systems in Section 3 and makes recommendations around each in Section 4.

CIBSE's advice is summarised by them as:

“To minimise the risks of airborne transmission of SARS-CoV2 the general advice is to increase the air supply and exhaust ventilation, supplying as much outside air as is reasonably possible. The underlying principle is to dilute and remove airborne pathogens as much as possible, exhausting them to the outside air and reducing the chance that they can become deposited on surfaces or inhaled by room users. Recirculation/transfer of air from one room to another should be avoided unless this is the only way of providing adequately high ventilation to all occupied rooms.

In rooms and zones where there is no direct supply of outside air then consideration should be given to prohibiting access to these spaces by building users, especially where it is likely that they would be occupying such a space for considerable lengths of time (longer than 30 minutes). This may include basement rooms or storage areas which rely on infiltration of air from other spaces.

Useful and further guidance

Additional technical information is available off the HSE link, to the Chartered Institution of Building Services Engineers - CIBSE website and various guidance documents.

- [HSE guidance on ventilation](#)
- [HSE guidance air conditioning and ventilation during the coronavirus outbreak](#)
- [CIBSE website - COVID-19 ventilation guidance](#)
- [CIBSE website - Coronavirus, SARS-CoV-2, COVID-19 and HVAC Systems](#)
- [CIBSE website - Making workplaces safe? It's a whole load of air](#)