

COVID-19 and Ventilation in the Workplace – Guidance for UNISON Safety Representatives

A well-ventilated workplace is essential to reduce the risk of COVID infection. Ventilation in the workplace should be assessed and improved alongside other measures to reduce the risk of exposure to coronavirus.

The Workplace (Health, Safety and Welfare) Regulations 1992 and the Workplace (Health, Safety & Welfare) Regulations (Northern Ireland) 1993 require employers to ensure that there is an adequate supply of fresh air in enclosed workplaces. This can be achieved through natural ventilation (open windows), mechanical ventilation or a mixture of both.

The regulations do not cover vehicles.

Good ventilation can help reduce the risk of the virus spreading in enclosed workplaces and the Approved Code of Practice to the Regulations states that the air which is introduced should as far as possible, be free of any impurity which is likely to be offensive or cause ill health.

In order to ensure compliance with the Workplace Regulations, employers will need to assess ventilation in the workplace by:

- a. **Assessing the risk of transmission**
- b. **Identifying poorly ventilated areas**
- c. **Decide what steps need to be taken to improve ventilation**
- d. **Implementing those steps and monitoring**

A) Assessing the risk of transmission

Coronavirus particles are spread through the air as droplets or aerosols. Aerosols can stay in the air in enclosed rooms for several hours. Good ventilation helps dilute the amount of virus in the air by dispersing particles and reducing the concentration of virus in the air.

Certain activities such as shouting or physical activity (which results in workers needing to breathe more heavily) can increase the amount of virus in the air.

If shouting is necessary, then noise levels should also be assessed, and any risk managed in line with the Noise at Work Regulations [HSE: Noise at work – health and safety in the workplace](#).

UNISON believes that social or physical distancing of 2 metres is still an important factor to reduce the risk of COVID infection in the workplace. However, where social distancing is no longer a legal requirement in the workplace as it is in England, the Workplace regulations have minimum space requirements which will prevent workspace becoming overcrowded. [How much space am I entitled to at work? \(hse.gov.uk\)](#)

The total volume of the room, when empty, divided by the number of people normally working in it should be at least 11 cubic metres. In making this calculation a room or part of a room which is more than 3.0m high should be counted as 3.0m high. The figure of 11 cubic metres per person is a minimum and may be insufficient if, for example, much of the room is taken up by furniture etc. (HSE ACoP on workplace Regulation 10)

B) Identify areas of poor ventilation

Employers need to review several factors when identifying areas of poor ventilation including:

Type of ventilation: windows that can be opened; windows and mechanical ventilation or rooms without either.

How large is the area and how many people are in it at any one time and how long people will be in the area.

Activity being carried out: The employer will need to review what work and activities are being carried out in different areas of the workplace.

Enclosed areas where there is a need to shout instructions, physically demanding work which could make the worker breathe more heavily, activities which require close proximity to a colleague or a member of the public and rooms where social distancing cannot be maintained are higher risk areas for transmission and should be priority areas for action.

Rooms which are hot and stuffy and where smells linger may indicate areas where ventilation is poor. The smaller the room and the more people in it the greater the risk.

Carbon dioxide meters are an effective way to identify poorly ventilated areas. People exhale carbon dioxide in their breath and high levels would indicate that ventilation is poor. The higher the levels of carbon dioxide in the work area the poorer the ventilation and the greater the risk of exposure to the virus. A carbon dioxide value of less than 800ppm would indicate that ventilation is adequate, anything higher indicates that priority action is needed. There are steps that should be taken when using Carbon dioxide meters to ensure the readings are accurate including where the meter is positioned, what types of rooms to use them in, including size and occupancy and how to take readings. The HSE supports the use of Carbon dioxide meters and has given advice on their use

Identifying poorly ventilated areas ([hse.gov.uk](https://www.hse.gov.uk))

Employers must carry out a systematic assessment of all rooms including changing rooms, toilets and rest areas which are often forgotten and can be poorly ventilated areas. Site plans can be used to ensure that no areas are missed.

C) Decide what steps need to be taken to improve ventilation

Once areas have been assessed (using high, medium or low risk or red, amber and green as an indicator) steps must be taken to tackle high and medium risk areas. The employer should have a plan of action and where necessary not use high risk areas, until ventilation has been improved. Other immediate measure for medium risk areas would be to reduce the room capacity, shortening the length of time people are in the room, ensure social distancing and the wearing of face coverings.

There are a number of steps that can be taken to improve natural ventilation including opening windows, air vents and propping open doors, although fire doors should not be propped open.

Leaving gaps between occupation of meeting rooms by different people and opening all windows and doors to air the room is also a measure that should be taken

Mechanical ventilation systems

There are different types of mechanical ventilation systems in use. Employers may not necessarily have control over the mechanical ventilation system in leased accommodation and will need to liaise with the building owner.

The employer should seek advice from a competent person when assessing and making any changes to mechanical ventilations systems.

The general principles are to have air recirculation switched off or set as low as is possible. System that draw and recirculate air internally should be turned off or where possible set to draw air from outside.

HSE's guidance on the Welfare Regulations advise that in normal circumstances the fresh-air supply rate should not normally fall below 5 to 8 litres per second, per occupant. In the context of Coronavirus it is recommended that air flow rates should be as high as possible ensuring that the air flow is least 10 litres per person per sec with minimum of 6 air changes an hour.

Some units will already be fitted with Carbon dioxide alarms that indicate when levels are too high.

There may be additional requirements for healthcare or other specialist premises with strict hygiene or infection control requirements.

Air cleaning and filtration units can be used to reduce airborne transmission of the virus. Where ventilation cannot be improved in other ways, cleaning devices such as high efficiency filters – HEPA or Ultra Violet type devices should be considered.

The use of wall or ceiling mounted fans are generally not recommended. However, securely facing a fan on a window with the fan circulation mechanism facing outwards to draw out the air in the room and pull in fresh air from outside can be an effective way of improving circulation.

D) Implementing those steps and monitoring

Employers need to implement steps to improve ventilation, prioritising areas of higher occupancy where ventilation is poor. Employers should restrict use and limit occupancy of areas where ventilation is poor until improvements are made.

Mechanical ventilation systems should be regularly and adequately cleaned, tested and maintained in line with manufacturers guidance to ensure they are effective and kept free from anything which may contaminate the air.

Where any changes are made e.g. room occupancy or use increased, risk assessments should be reviewed. Assessments should also be reviewed should there be any outbreaks.

Thermal comfort, drafts and external air pollution

Employers will need to balance the need to reduce exposure to COVID-19 with other risks such as thermal discomfort and drafts especially in winter months. Workers should be allowed to wear extra layers of clothes and rooms can be heated, although fan convector heaters should not be used in poorly ventilated areas. Opening windows at the top can help reduce drafts.

Where rooms and work areas are located next to depots where diesel engines are located, risk of exposure to diesel fumes where windows are left open needs to be assessed and measures taken to reduce the risk such as ensuring engines are not idling.

Ventilation when visiting someone at home

While the workplace regulations do not apply to working in someone else's home, the employer still needs to take steps to ensure the safety of workers and should carry out a risk assessment.

Where members visit domestic premises employers should communicate with residents and encourage them to ventilate the premises e.g. open windows just before and during the visit to protect their safety and that of the worker.

Ventilation in vehicles

Ventilation in vehicles used for work should also be assessed and systems set to draw in fresh air and not recirculate. Windows should be opened as much as possible and vehicles aired between use by different workers.

Checklist for Safety Representatives

- Does your employer's COVID risk assessments consider ventilation requirements?
- Have safety reps been consulted on the assessment of ventilation in the building?
- Is natural ventilation optimised in all areas e.g. opening windows, ducts and doors?
- Where there are mechanical systems is air recirculation switched off or set as low as is possible? Is it turned on at least 2 hours before occupation?
- Is the air flow at least 10 litres per person per sec with minimum of 6 air changes an hour?
- Is the ventilation system cleaned and maintained in line with manufacturer's instructions?
- Are areas with inadequate ventilation taken out of use or alternative methods to reduce risk used (e.g. reducing occupancy, portable HEPA filtration units)?
- Are rooms aired after use to allow contaminants to dissipate?
- Are rooms cleaned regularly to reduce recirculation of any virus deposited on surfaces, adsorbed on dust and is this recorded?
- Are other risks from the use of natural ventilation assessed and reduced and buildings made as comfortable as possible balancing the risk of COVID-19 transmission e.g. pollution as adjacent to a vehicle depot, drafts, and cold temperatures.
- Are risks to those who drive vehicles or do visits to domestic premises assessed and steps taken to improve ventilation?

Further Information

[Ventilation and air conditioning during the coronavirus \(COVID-19\) pandemic \(hse.gov.uk\)](#)

[Workplace health, safety and welfare. Workplace \(Health, Safety and Welfare\) Regulations 1992. Approved Code of Practice and guidance L24 \(hse.gov.uk\)](#)

[VENTING | Coronavirus risks are mostly up in the air - Hazards magazine](#)

[CIBSE - Coronavirus COVID 19](#)

[COVID-19-and-Ventilation-FAQs-v2.pdf \(kinstacdn.com\)](#)