



# Ventilation and Air-Conditioning in Workplaces



Ventilation at the workplace is one of the physical aspects of a workplace which is specifically referred to, in local occupational health and safety legislation. Regulation 10 of the Work Place (Minimum Health and Safety Requirements) Regulations, S.L. 424.15<sup>1</sup> oblige an employer to ensure that every workplace is sufficiently ventilated and for rendering harmless by the use of extraction systems, so far as reasonably practicable, all fumes, dust and other impurities that may be injurious to health. The employer must also ensure that any equipment used is suitably maintained.

## IMPORTANCE OF VENTILATION

Ventilation can be natural, when air flows through doors, windows or any other openings whether fully or partially open. Alternatively, mechanical ventilation uses fans and air ducts to supply fresh air from outside. There can also be a combination of both systems.

Adequate ventilation is important because it reduces the risk of aerosol<sup>2</sup> transmission but has little effect on droplet transmission (when people are closer than 2m from each other) or contact transmission (by touching work surfaces).

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Lack of ventilation or inadequately ventilated areas pose a greater risk of aerosol transmission, which can be reduced by limiting the number of workers in an area, ensuring that no infected workers come to the workplace and providing adequate ventilation with fresh air. The latter should be considered as part of the employers' obligation to carry out, or ensure that is carried out, a risk assessment in conformity with the regulations<sup>3</sup>. Such risk assessment must be carried out by a competent person in consultation with the workers and their health and safety representatives. The result of the risk assessment and the preventive and protective measures must be communicated to the workers and their health and safety representatives.

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<sup>1</sup> Work Place (Minimum Health and Safety Requirements) Regulations, S.L. 424.15 - <https://legislation.mt/eli/sl/424.15/eng/pdf>

<sup>2</sup> Small particles in the air that could be produced by sneezing, coughing or even talking

<sup>3</sup> General Provisions for Health and Safety at Work Places Regulations, S.L. 424.18 - <https://legislation.mt/eli/sl/424.18/eng/pdf>



## RISK ASSESSMENT

The risk assessment must identify occupied areas that are not adequately ventilated. There may be areas without mechanical or natural ventilation, systems that only circulate air with no fresh air supply or areas that feel stuffy. It is important to maximise the amount of fresh air in any particular area by natural or mechanical ventilation or a combination of both.

Issues to consider in the risk assessment:

- number of workers occupying an area at any time – reduce number of persons;
- the time workers spend in an area – reduce to a minimum;
- the size of an area – the larger the area, the longer it takes for aerosols to build up and helps to dilute the virus;
- type of activities – activities that require physical exertion or shouting increase the generation of aerosols;
- layout of the workplace that affects ventilation - large equipment or other items may hinder air circulation;
- free standing, desk or ceiling fans – these should not be used in poorly ventilated areas.

If a building incorporates different ventilation systems, one should consult a competent person in ventilation and, or specific guidance documents, e.g. Chartered Institution of Building Services Engineers (CIBSE)<sup>4</sup>.

## HOW TO IMPROVE VENTILATION

Natural ventilation can be improved by partially or fully opening doors and windows, but not fire doors. Airing rooms by opening all doors and windows will help maximise ventilation. In the colder months this is best carried out when the room is unoccupied. Mechanical ventilation, including air-conditioning, should be based on the maximum occupancy and maintained according to the manufacturer's instructions. Systems should be set to maximise fresh air intake and minimise recirculation. One should also consider operating such systems before and after workers occupy work areas.

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<sup>4</sup> <https://www.cibse.org/coronavirus-covid-19/emerging-from-lockdown>



## RECIRCULATION

Air should not be recirculated from one area to another. Air-conditioning units that do not allow fresh air, can be used provided there is a supply of fresh air by opening doors and windows. If no air-conditioning is provided, a balance has to be reached to keep the workplace warm in the colder months. Windows and doors can be opened partially, heaters can be used if the area is well ventilated and workers should wear warm clothing.

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When adequate ventilation cannot be achieved, air-cleaning and filtration units may be used to reduce aerosol transmission. It is important to use suitable units like high-efficiency filters or ultraviolet devices and ensure that they are appropriately sized for the intended area and maintained according to the manufacturer's instructions.

## VEHICLES

Workers making use of work vehicles should switch on ventilation systems, set to draw in fresh air, not recirculate it. Windows should be kept open as much as possible. If work vehicles are used by different persons, it is recommended that one opens the vehicle doors for a few minutes and cleans the steering wheel and controls with appropriate disinfectant wipes, before using the vehicle.

This information is intended to complement the advice given by the health authorities, which include keeping the workplace clean, frequent handwashing, social distancing and wearing a mask.

*(OHSa – March 2021)*

*Every effort has been made to ensure that the information in this document is correct and provided in good faith according to current best practice. The information provided in this document does not, and is not intended to constitute legal advice. It is also strongly recommended that one considers all relevant regulations related to this subject.*



## REFERENCES

Work Place (Minimum Health and Safety Requirements) Regulations, S.L. 424.15 - <https://legislation.mt/eli/sl/424.15/eng/pdf>

Chartered Institution of Building Services Engineers (CIBSE) - <https://www.cibse.org/coronavirus-covid-19/emerging-from-lockdown#1>

General Provisions for Health and Safety at Work Places Regulations, S.L. 424.18 - <https://legislation.mt/eli/sl/424.18/eng/pdf>

Source: <https://www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation/index.htm>

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