

COVID-19 Information and Checklist for Improving Indoor Air Quality With Ventilation

Protecting Against COVID-19

Bringing fresh outdoor air into homes and businesses helps reduce the concentration of airborne contaminants, including viruses. When combined with prevention strategies like social distancing, mask-wearing, surface cleaning, and hand-washing, proper ventilation (the flow of fresh air into a building or room, and the distribution of the air) is an important tool to prevent the spread of COVID-19.

Business Strategies to Improve Indoor Air Quality

Commercial buildings such as schools, offices, and businesses often have heating, ventilation, and air conditioning (HVAC) systems that are maintained by building maintenance or HVAC professionals. These professionals should consult the [American Society of Heating, Refrigerating and Air-Conditioning Engineers \(ASHRAE\) guidance for COVID-19](#), and use the resources linked below to work to get a high air exchange rate with a proper-sized filter and outside air, while still managing energy efficiency.

In general, the more people there are in an indoor environment, the greater the need for ventilation with outdoor air. The ventilation rate should be based on the number of people that occupy an indoor space, with special consideration needed for high-traffic times and areas. When working to improve indoor air quality, two important things to consider are:

- Ventilation system design** – operators should ensure that the level of outdoor air provided to the room/building matches the permit-approved HVAC system design documents and ASHRAE 62. A review of the system design should be conducted before increasing mechanical ventilation.
- Filtration** – using properly-sized air filters, changed on a regular basis, to remove allergens, dust, bacteria, and more.

Checklist of Actions to Take

- Inspect and perform maintenance on HVAC system and equipment.

For more information, visit: coronavirus.ohio.gov

- Ensure ventilation system is functioning properly and providing the design level of outside airflow. (If design parameters are not available, consult with a professional engineer and use the Ohio Mechanical Code and ASHRAE standard 62.1 or 62.2 to determine the required ventilation rates.)
- Implement a daily building air flushing procedure by operating HVAC system in occupied mode two hours prior to and two hours after occupancy and allowing restroom exhaust to operate 24/7.
- Inspect existing air filtration, upgrade to MERV 13 or 14 if possible.
- Implement monitoring of space temperature, humidity, and CO2 to help identify indoor air quality issues.
- Consult with a professional engineer on options for system modifications if outside airflow and air filtration are not adequate.

Businesses are encouraged to consult with a State of Ohio registered mechanical/HVAC professional engineer, HVAC designer with ASHRAE certifications, and/or performance management professionals with ASHRAE certifications to improve indoor air quality in their facilities. Regular maintenance of the HVAC system should include cleaning or replacing HVAC system filters, inspecting outdoor air intakes, and inspecting building exhaust fans to make sure they are working properly.

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Links and Resources:

- [Environmental Protection Agency \(EPA\): Ventilation and Coronavirus \(COVID-19\)](#)
- [EPA: Indoor Air Coronavirus \(COVID-19\)](#)
- [American Society of Heating, Refrigerating and Air-Conditioning Engineers \(ASHRAE\): Guidance for COVID-19](#)
- [National Institute for Occupational Safety and Health \(NIOSH\) Indoor Environmental Quality Indoor Environmental Quality Building Ventilation Action Steps](#)
- [Ohio Schools and SARS-CoV-2: A Summary of HVAC and Plumbing Industry Guidelines](#)

For more information on COVID-19, please visit coronavirus.ohio.gov

For answers to your COVID-19 questions, call 1-833-4-ASK-ODH (1-833-427-5634).

Your mental health is just as important as your physical health. If you or a loved one are experiencing anxiety related to the coronavirus pandemic, help is available 24 hours a day, seven days a week. Call the COVID-19 CareLine at 1-800-720-9616.

For more information, visit: coronavirus.ohio.gov

Protect yourself and others from COVID-19 by taking these precautions.

PREVENTION

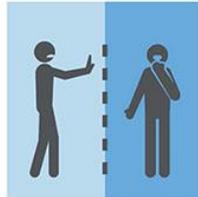
For additional information call 1-833-4-ASK-ODH or visit coronavirus.ohio.gov.



STAY HOME EXCEPT FOR WORK AND OTHER NEEDS



WEAR A FACE COVERING WHEN GOING OUT



PRACTICE SOCIAL DISTANCING OF AT LEAST 6 FEET FROM OTHERS



SHOP AT NON-PEAK HOURS



WASH HANDS OFTEN WITH WATER AND SOAP (20 SECONDS OR LONGER)



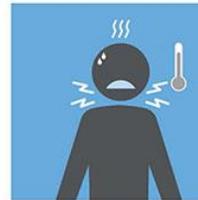
AVOID TOUCHING YOUR EYES, NOSE, OR MOUTH WITH UNWASHED HANDS OR AFTER TOUCHING SURFACES



COVER YOUR MOUTH WITH A TISSUE OR SLEEVE WHEN COUGHING OR SNEEZING



CLEAN AND DISINFECT "HIGH-TOUCH" SURFACES OFTEN



DON'T WORK WHEN SICK



CALL BEFORE VISITING YOUR DOCTOR