



| v2 - LEED 2.0

Outdoor air delivery monitoring

EQc1 | Possible 1 point

Glossary

Intent

Provide capacity for ventilation system monitoring to help sustain long-term occupant comfort and well-being.

Requirements

Install permanent monitoring systems that provide feedback on ventilation system performance to ensure that ventilation systems maintain minimum ventilation rates.

Option A

For mechanical ventilation systems that predominantly serve densely occupied spaces (spaces with a design occupant density greater than or equal to 25 people per 1,000 square feet (40 square feet per person)), do the following:

- Provide a CO₂ sensor or sampling location for each densely occupied space, and compare with outdoor ambient CO₂ concentrations.
- Test and calibrate CO₂ sensors to have an accuracy of no less than 75 ppm or 5% of the reading; whichever is greater. Sensors must be tested and calibrated at least once every five years or per manufacturers' recommendation.
- Monitor CO₂ sensors by a system capable of and configured to trend CO₂ concentrations on no more than 30 minute intervals.
- Configure system capability to generate an alarm visible to a system operator and, if desired, to building occupants if the CO₂ concentration in any zone rises more than 15% above that corresponding to the minimum outdoor air rate required by ASHRAE Standard 62 (see IEQ Prerequisite 1).
- CO₂ sensors may be used for demand-controlled ventilation provided the control strategy complies with ASHRAE Standard 62 (see IEQ Prerequisite 1), including maintaining the area-based component of the design ventilation rate.

Option B

For all other mechanical ventilation systems:

- An outdoor airflow measurement device must be provided that is capable of measuring (and, if necessary, controlling) the minimum outdoor airflow rate at all expected system operating conditions within 15% of the design minimum outdoor air rate.
- The outdoor airflow measurement device shall be monitored by a control system capable of and configured to trend outdoor airflow on no more than 15-minute intervals for a period of no less than six months.
- The control system shall be capable and configured to generate an alarm visible to the system operator if the minimum outdoor air rate falls more than 15% below the design minimum rate.

Option C

For natural ventilation systems, provide the following:

- CO₂ sensors located in the breathing zone of every densely populated room.
- CO₂ sensors located in the breathing zone of every natural ventilation zone.
- CO₂ sensor(s) located outdoors.
- CO₂ sensors shall provide an audible or visual alarm to the occupants in the space and building management if CO₂ conditions are greater than 530 parts per million above outdoor CO₂ levels or 1,000 parts per million absolute. The alarm signal should indicate that ventilation adjustments (i.e. opening windows) are required in the affected space.
- Operable windows areas must meet the requirements of ASHRAE 62.1-2004, section 5.1.