

Fitwel Enhanced Indoor Air Quality Testing and Monitoring Protocol



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A qualifying Enhanced Indoor Air Quality (IAQ) testing and monitoring protocols must:

- Test the indoor air after any construction and major renovations prior to occupancy within all required areas.
- Require testing or monitoring of the Indoor Air Quality post occupancy following all long-term closures (2 weeks or more) or significant reduction in occupancy (more than 25%), within all required areas.
- Require annual testing or monitoring the Indoor Air Quality post occupancy in all required areas, by following one of the below:
 - conducting qualifying testing annually showing the average levels measured for each required zone
 - conducting qualifying monitoring continuously showing monthly averages and peaks lasting for more than one hour during work hours while HVAC systems are operating at design parameters.
- Test and/or monitor for the following pollutants:
 - PM2.5: less than 12 $\mu\text{g}/\text{m}^3$
 - CO2: less than 1000 ppm.
- Test and/or monitor the levels of air quality metrics with the recommended limits for three of the following:
 - TVOC: less than 500 $\mu\text{g}/\text{m}^3$
 - Relative Humidity: between 30-60%
 - Ozone: less than 0.07 ppm
 - CO: less than 9 ppm
 - Formaldehyde: less than 27ppb.
- Outline a protocol to improve the air quality if the recommended limits for air quality metrics are not

met.

Qualifying Indoor Air Quality testing must be conducted:

- during work hours while HVAC systems are operating at design parameters.
- over a period of at least 4 hours.
- in the breathing area between 4 to 8 feet from the floor level.
- every 25,000 sq.ft., or per Air Handling Unit (AHU) zone whichever is more stringent.

- using one of the following testing methods as applicable:
 - Direct reading from IAQ testing devices for TVOC, PM10, PM2.5, CO, CO2 and relative humidity.
 - EPA: Compendium Methods IP-10 (PM2.5) / IP-1 (TVOC) / IP-3 (CO2 and CO) / IP-6
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(Formaldehyde), TO-1 and TO-17 (TVOC), TO-11 (Formaldehyde)

- ISO: 7708 (PM2.5) / 16000-6 (TVOC) / 4224 (CO) / 16000-3 (Formaldehyde) - ASTM D5197 or NIOSH 2016: (Formaldehyde).

Qualifying Indoor Air Quality monitoring must be conducted:

- on every 25,000 sq.ft., or per Air Handling Unit (AHU) zone, whichever is more stringent.
- using monitors that meet all the following requirements:
 - has a data output interval of at least once every 5 minutes
 - has a data loss rate of 10% or less
 - has a minimum operating range for temperature of 0-40 °C.
 - has a minimum operating range for relative humidity of 5-85% RH, non-condensing
 - requires permanent installations
 - is calibrated and confirmed functional without defect prior to shipping.