

SIGNIFICANCE

Even with the restrictions on the use of high emitting materials such as volatile organic compounds (VOC) and on the protection of air conditioning equipment during construction, it is still possible the IAQ of the building will not be at the acceptable level. It is important to eliminate various pollutants generated due to construction / renovation activities inside the building. When a healthy indoor air quality is ensured in the building, it will have a positive effect on the comfort, health and productivity of the occupants. Evaluating IAQ levels is imperative to ensure compliance with DM standards, prior to building occupancy.

IAQ test results also guide the project team to identify potential contaminant threat levels, so that corrective actions can be taken to reduce the pollutant levels.

APPLICABILITY

This regulation is applicable to all building types. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.

IMPLEMENTATION

Effective implementation of IAQ plan and strategies would result in compliance of IAQ levels as set forth by this regulation. The schedule, duration of sampling and maximum limit for contaminants as stated in Table 401.06 (1) should be included as part of project specifications. It should also include testing methods / standards, sampling point details and testing agency requirements.

In construction stage, prior to occupancy, testing shall be carried out to demonstrate the indoor pollutant concentration levels do not exceed the values stated in Table 401.06 (1). Report showing compliance with these requirements, must be submitted to DM. Some of the important factors to be considered for IAQ testing:

- To ensure compliance with DM's IAQ standards, performance of each HVAC systems including space temperature, space humidity uniformity, outside air quality, filter installation, drain pan operation and any known contamination sources are verified, prior to IAQ testing.
- IAQ test must be carried out by specialised companies or laboratories.
- An IAQ testing plan specifying the procedures, testing standards, equipment to be used and sampling methods that will be employed, shall be developed.
- IAQ testing shall be carried out following the completion of all interior finishes, not limited to doors, paints, carpet, tiles and furniture, prior to occupancy.
- Perform IAQ testing within the breathing zone between 3 and 6 feet above the finished floor and for a duration of continuous 8 hours.
- Air samples shall be collected during regular operational hours. Ventilation and air conditioning systems should be operating in their normal operating mode for the entire duration of the testing.
- Outdoor samples may also be needed for comparison with indoor samples for some conditions, such as temperature and relative humidity, and some contaminants, such as airborne dust.
- All individual testing equipment and sensors shall have initial and final calibration certificate conforming the compliance levels by DM approved external calibration agency.
- IAQ testing is required to be performed for each parameter for each sampling location, in accordance with the DM requirements.

Sampling Locations

Recommended number of samples for Residential, Commercial and Industrial buildings are given in Table 401.06 (2), and for Public buildings are given in Table 401.06 (3).