Indoor Air Quality

Engineering Client Success

Identifying and eliminating indoor air culprits is a little like finding what goes bump in the night - because they're intangible. It takes a finely tuned process; one that TEC's professionals utilize to determine the causes of IAQ complaints and make mitigation recommendations on a daily basis.

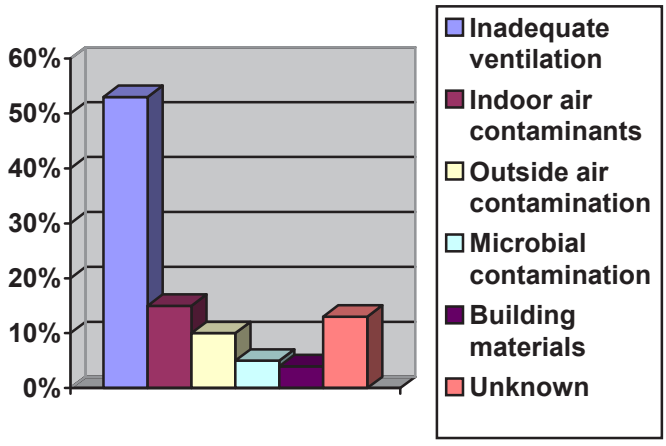
Indoor air pollution, building-related illness, and "sick building syndrome" have received increased attention over the past several years. Research, conducted by various agencies such as the Environmental Protection Agency (EPA), has shown that indoor concentrations of pollutants may be 10 to 100 times greater than that of the air outdoors. Given that many people spend as much as 90% of their time indoors, the health risk due to indoor air pollutants is a significant public health concern.

Conditions that contribute to poor indoor air quality include: construction of more tightly sealed buildings, reduced ventilation rates to save energy, inadequate ventilation system maintenance, the use of synthetic building materials and furnishings, improper storage of chemicals and cleaning supplies, and ineffective housekeeping practices. The four basic factors affecting IAQ are indoor air pollutant sources; heating, ventilation, and air-conditioning (HVAC) systems; pollutant pathways; and occupants.

Typical sources of indoor air pollutants and conditions that can have an impact on IAQ include:

- Moisture and mold contamination of building materials
- Inadequate Maintenance of Heating, Ventilating & Air Conditioning (HVAC) Systems
- Inadequate Temperature and Humidity Control
- Water-borne Pathogens (Legionella)
- Allergens in Settled Dust
- Combustion Products
- Volatile Organic Compounds from New Building Materials
- Histoplasma / Cryptococcus from bird and bat infestations
- Sewer Odors from Cracked or Blocked Sanitary Vents
- Pesticides
- Tobacco Smoke
- Radon

IAQ Complaint Percentages



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IAQ can affect people's health and can have significant economic and legal implications. For example:

- Pollutants can cause or contribute to short- and long-term health problems, including asthma, respiratory tract infections, allergic reactions, headaches, congestion, eye and skin irritations, coughing, sneezing, fatigue, dizziness and nausea.
- Indoor air pollutants can cause discomfort, and reduce attendance and productivity. Recent data suggests that poor IAQ can reduce a person's ability to perform specific mental tasks requiring concentration, calculation, or memory.
- Indoor air pollutants can hasten building deterioration. For example, uncontrolled moisture can result in mold growth that leads to the structural decay of building components.

- Poor indoor air quality can strain relationships among employees, family members, parents, teachers, students and school administrations.
- Indoor air quality problems can even result in liability issues or lawsuits.

TEC provides Indoor Air Quality (IAQ) consulting services for a diverse group of clients including those in the healthcare, municipal, educational and institutional, as well as private market sectors. Our approach to identifying IAQ problems is based upon sound scientific principals of investigation and assessment.

It begins with occupant interviews, a review of building construction and past renovations. Next we perform an assessment of the building environment for poor IAQ indications such as:

- Water infiltration and microbial growth, ventilation system cleanliness and operating characteristics, housekeeping, and other potential sources.
- Basic air quality and thermal comfort monitoring provides important supporting information. Supplemental to sampling for specific pollutant types such as allergens, airborne mold or volatile organic compounds may be performed also.

- Once all data is received and reviewed, we provide conclusions and feasible recommendations for improving conditions and resolving occupant concerns.

For more information, to request a proposal, or schedule an IAQ Assessment, contact:

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