



1. Architectural Design

Architectural design is very important to the indoor environmental quality of a building. Climatic conditions, topography and relationship to other buildings are all critical. Full consideration of the functional and aesthetic needs of the occupants must be evaluated. As part of the architectural considerations, all of the design elements of the interior of the building also need to be considered.

2. Materials of Construction

Materials of construction are important sources of pollutants both at the time of installation and throughout their useful lives. Along with furniture and carpeting, they are also the primary growth sites for microbial contamination. In addition to choosing materials for their utility and price, evaluation of their short and long term impact on the indoor environment should be done. To minimize the chances of future contamination, consideration should be given to the use of materials with active antimicrobial surfaces or which discourage the growth of fungi.

3. Ventilation Systems

The entire building should be viewed as the "ventilation system" - not just the air handling system. With this perspective, making adjustments for pollutant sources and building use, population and population distribution can be made. The ramifications of ventilation must be evaluated at all stages of design, construction, maintenance and renovation. Modern HVAC systems can provide adequate quantities of "fresh air" to a building and high efficiency filtration units can significantly lessen airborne particulates, but they do nothing to control the sources of either microbial or chemical pollution. Unless the HVAC system is considered only as one part of a building's total ventilation system, major environmental problems can be created.

4. Heating and Cooling

Buildings and the equipment and people within them respond dramatically to swings in temperature. Most of these responses are bad. Condensing surfaces, stresses cause cracks and other subtle things occur in buildings when temperatures are not stable. Periods of high temperature, especially when combined with high humidity, can result in a dramatic growth of microbial contamination. For people, discomfort leads to loss of productivity and sometimes illness. The control response in reasonable, well-understood building zones should be set at the center of the comfort zone and in balance with humidity control.

5. Humidity Control

Humidity swings can have all the negative responses listed under heating and cooling. In many parts of the world, humidity is the driving force for a tremendous number of structural and human problems. Although low humidity levels will not guarantee freedom from microbial contaminants. Humidity should be maintained at the low end of the comfort zone, but coordinated with temperature controls so as to minimize condensing surfaces.

6. Environmental Standards and Record Keeping

Maintaining current files of comfort response and your indoor environmental standards and providing for environmental monitoring records retention is very important both for understanding your building's environment and for being prepared when the inevitable problems arise. These records can be useful for troubleshooting and for spotting potential problem areas before a crisis strikes.

7. Building Systems

Many changes go on within a building during its useful life. Keeping systems design elements up to date and in balance is critical to indoor environmental quality. Performance of biannual "commissioning" checks is warranted.

8. Maintenance and Cleaning Responsibilities

Whether using a service or your own personal, cleaning and maintenance responsibilities need to be clearly defined. Choices of cleaning chemicals and quick response to maintenance and housekeeping requests are among the critical indoor environmental quality issues these day-to-day people handle. Maintenance and cleaning activities are essential for maintaining a pleasant work atmosphere, but they are not a panacea for all problems. Maintenance and cleaning tend to deal with problem symptoms, but are seldom capable of eliminating sources.

9. Structural Problems

Maintenance of a loose door handle might wait for a day, but putting off repair of structural problems can lead to disaster. Cracks in walls, leaking roofs, failed caulking, etc, all lead to the creation of environments where microorganisms will thrive and where other pollutants can enter into the occupied spaces.

10. Furnishings

Furnishings, from carpeting to equipment to decorations, all have a significant impact on indoor environmental quality. They are primary growth sources for microbial contamination and can act as secondary growth sources when contaminated from human activities or the environment. Wherever possible, furnishings, especially carpeting, should be treated so that they are antimicrobially active. Understand the materials of construction, installation materials and lifetime impact of furnishings.

11. Housekeeping

Housekeeping procedures and personnel should be visible and in concert with the expectations of the occupants. Chemicals and procedures should be carefully selected for IEQ compatibility.

12. Building Surveys

Baseline surveys of people and building are critical for effective troubleshooting. Blueprints should be kept up to date and commissioning documents should be available.

13. Occupant Density

Occupant density is far more important to the indoor environment than most managers believe. As building use matures, density tends to go from below design capacity, to capacity and finally to over capacity. These changes directly affect a variety of environmental factors and full consideration of the changing impact must be evaluated.

14. Smoking

Have a clear and enforced smoking policy which keeps smoke from the general occupied space.

15. Opinions and Legal Judgments

Building staff should leave opinions on indoor environmental quality to the experts and keep communications on such topics within prescribed channels. Legal conclusions should never be debated or discussed, but left to the lawyers. What you write in your memos could come back to haunt you.

16. Insurance and Liability

Understand what your insurance does and doesn't cover and run your building defensively. Many insurance carriers specifically exclude coverage for environmentally related incidents. Although these exclusions are intended primarily to avoid responsibility for toxic waste incidents, they are often written in such a manner that all environmentally related incidents are excluded.



AEGIS ASIA PTE LTD

Phone: 65-62419443

www.aegisasia.com