

CHAPTER 2 - CONSERVATION AND EFFICIENCY: BUILDING SYSTEMS

500

502.17 CONTROL OF AIR CONDITIONING ZONES



INTENT

To achieve optimum thermal comfort and energy savings by controlling air conditioning zones.

REQUIREMENT

For Platinum Sa'fa and for all new buildings, mechanical ventilation and temperature control system shall be designed such that it allows the occupants to control the air temperature and air speed in each thermal zone. In addition to achieving this requirement, there shall also be control of HVAC system in thermal zones using occupancy sensors that automatically modulate temperature and air flow rate, based on occupancy. The system shall prevent inefficient use of air conditioning system, by use of interlocks in window / door / energy saving input contacts to the control devices. This shall be integrated with central building management system which can generate alarms, in case of deficient use.

SIGNIFICANCE

Thermal comfort is one of the most fundamental requirements for occupancy. High level of thermal comfort in a building is achieved by proper sub-zoning and controlling each thermal zone independently.

With the use of sensors and automated control system for thermal comfort, the overall energy consumption will also be optimised which is an added advantage for the building owners and operators. Further, the independent controls shall aid in reducing the runtime of HVAC equipment, which will extend the life of the equipment and reduce the maintenance and replacement costs.

APPLICABILITY

This regulation is applicable to all building types. Refer to Table 101.07(3) in Section One - Administration for detailed applicability levels.

IMPLEMENTATION

The compliance of *Regulation 502.08: Control systems for HVAC system* forms the basis for implementing this regulation. All thermal control zones must be identified as per *Regulation 502.08* and is based on building space type, occupancy pattern, thermal demand, exposure to sun etc.

In addition to zone control strategies for HVAC system identified in *Regulation 502.08*, following are some of the strategies that must be implemented in order to control each zone and to enhance occupant comfort and energy savings.