

Understanding these variables is essential in making informed decisions when planning and designing a building air conditioning system to achieve thermal comfort. Building design should minimise energy consumption for air conditioning while maintaining thermal comfort conditions at an acceptable level for building occupants. While every building occupant may have different levels of thermal comfort, it is important to provide a comfortable environment for the majority of occupants. A better thermal comfort in the building would increase workforce productivity and promote better health for its occupants.

APPLICABILITY

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

IMPLEMENTATION

The thermal comfort requirements identified in this regulation are the acceptable comfort range of conditions for most of the occupants in Dubai (shown in fig. 402.01(1)).

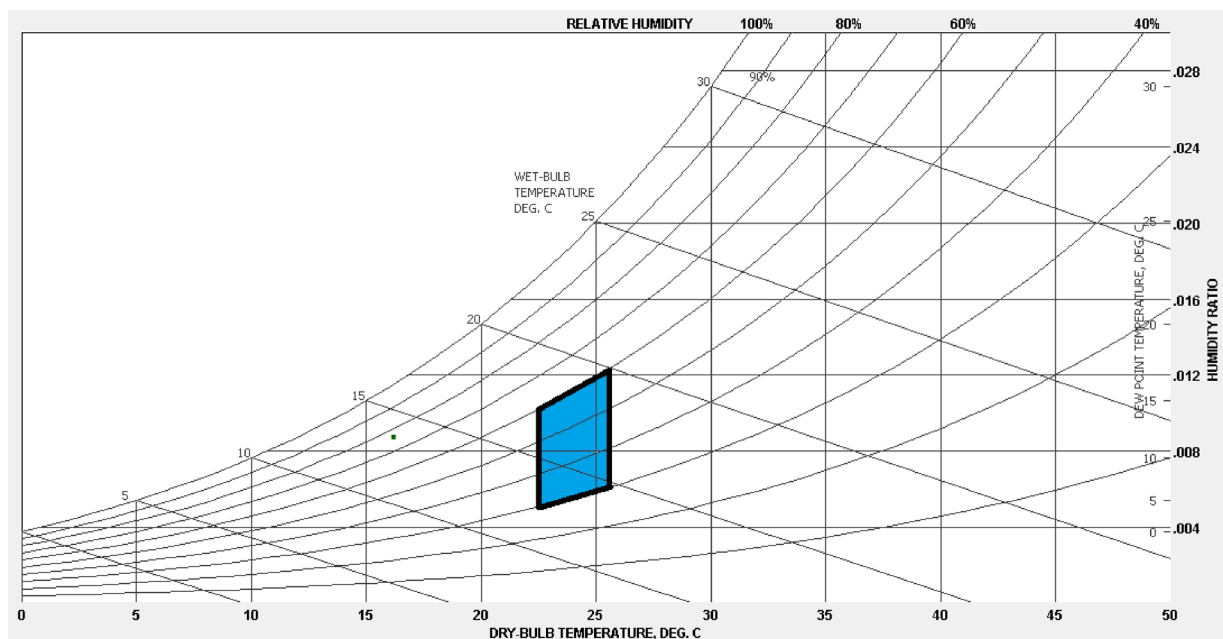


Fig 402.01(1): Thermal Comfort Chart

The air conditioning systems must be designed considering all the factors that impacts the thermal comfort of the occupants such as metabolic rate, clothing, surface temperature, air temperature, humidity and air velocity. It must also maintain the specified comfort ranges at all locations within the occupied space for 95% of the year under varying load conditions (such as partial occupancy and various activity levels). Spaces that may get affected for discomfort, such as areas close to entrances which are prone to drafts or south facing wall that retain heat, should also be considered while designing the air conditioning systems.

In addition to maintaining temperature and humidity, the regulation also specifies the required average air speed in the regularly occupied spaces, which shall be in the range of 0.2 m/s – 0.3 m/s.