



## **Thermal Comfort**

An area is said to have achieved thermal comfort when a person wearing a normal amount of clothing feels neither too cold nor too warm. Thermal comfort contributes both to personal well being and to productivity. Indoors, thermal comfort is dependent on air temperature, relative humidity and air movement.

Radiant heat can also affect thermal comfort, the most notable contributor being direct sunlight, which can be a significant factor for outdoor work or sports activities.

If the air temperature is too warm, occupants will feel tired, while if it is too cold, they will have difficulty in concentrating, becoming restless and easily distracted.

Low relative humidity may cause drying of the mucous membranes and lead to respiratory problems while high relative humidity can make the area feel stuffy. High relative humidity indoors can also contribute to the growth of bacteria and mould.

Some indoor air movement is desirable, so long as the air movement is not so rapid as to cause a distraction or to be perceived as a draft.

Even small deviations from the thermal comfort zone may be uncomfortable and affect performance. Employees who already feel that they are under other forms of stress will be less tolerant of thermal conditions they feel are uncomfortable.

standards for office and related buildings. Although there are requirements for the provision of fresh air to all occupied spaces, it is important to note that there is no requirement for office or related buildings to be air conditioned. Where buildings do have air conditioning also has design guidelines for these systems. Buildings which do not have either central air supply or air conditioning systems must have windows that can be opened by the occupants to provide fresh air and air movement.

If any time, you believe your physical health and safety is being affected by the workplace environment or task you are performing, contact your direct supervisor immediately.

In the absence of discernable air movement and with relative humidity in the range of 50%, air temperature becomes the critical factor in for maintaining indoor thermal comfort.

However, the preferred temperature  $t_{ref}$  is 23.5°C (74.3°F) with a range of 21.5°C (70.7°F) to 25.5°C (77.9°F). The preferred relative humidity is 50% with a range of 40% to 60%.

