

## Thermal comfort

Possible 1 point

### Intent

To promote occupants' productivity, comfort, and well-being by providing quality thermal comfort.

### Requirements

#### Establishment

##### Option 1. ASHRAE 55–2010 [India ACP: Thermal Comfort NBC]

Have a permanent monitoring system to ensure ongoing building performance to the desired comfort criteria, as specified by ASHRAE Standard 55–2010, Thermal Comfort Conditions for Human Occupancy, Section 5.2 or 5.3, with errata, or a local equivalent.

[India ACP: Thermal Comfort NBC]

#### OR

##### Option 2. ISO and CEN Standards

Have a permanent monitoring system to ensure ongoing building performance of the desired comfort criteria, as specified by the applicable standard:

- ISO 7730:2005 Ergonomics of the Thermal Environment, analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria; and
- CEN Standard EN 15251:2007, Indoor Environmental Input Parameters for Design and Assessment of Energy Performance of Buildings, addressing indoor air quality, thermal environment, lighting, and acoustics, Section A2.

Meet the above requirements for occupants in regularly occupied spaces.

#### Performance

The monitoring system must meet the following requirements.

- Continuous monitoring. Monitor at least air temperature and humidity in occupied spaces, at sampling intervals of 15 minutes or less.
- Periodic testing. Monitor air speed and radiant temperature in occupied spaces. Using handheld meters is permitted.
- Alarms. An alarm must indicate conditions that require system adjustment or repair.
- Prompt repair. Specify procedures for adjustments or repairs to be made in response to problems identified.
- Calibration. All monitoring devices must be calibrated within the manufacturer's recommended interval.

### Alternative Compliance Paths (ACPs)

#### India ACP: Thermal Comfort NBC

##### OPTION 1. ASHRAE 55–2010 OR THE NATIONAL BUILDING CODE OF INDIA 2005 (NBC 2005)

Projects in India may meet the desired comfort criteria specified in the following as a local equivalent to ASHRAE 55-2010:

- For mechanically conditioned buildings, NBC 2005 Part 8, Section 3 - Table 2
- For naturally conditioned buildings, NBC 2005 Part 8, Section 1 - Table 9