

Lobby to Floor Plate: The Thermal Transition Nobody Designed For

You walk from 42°C pavement into a 22°C lobby. Your body objects.

At a Glance

You walk from 42°C heat into a 22°C lobby. Your nervous system fights back. Rapid vasoconstriction in peripheral blood vessels. Immediate sensation of cold shock. Muscle tension. Your body thinks it is in thermal danger. The thermal transition nobody designed for is the entry sequence. [1]

Summary

The transition from exterior to interior air is an acute thermal shock. Outdoor temperatures in Indian cities during March to November peak at 35°C to 42°C. Building lobbies maintain mechanical setpoints of 20°C to 22°C, a differential of 15 to 22 degrees Celsius experienced in 10 to 20 seconds. [1]

This is not a minor comfort issue. Thermal shock activates the sympathetic nervous system. Blood vessels in the skin constrict to preserve core temperature. Heart rate increases. Muscle tension rises. The sensation is a sudden chill despite moving into a building where the ambient energy is lower. Research on thermal transitions shows that rapid temperature changes greater than 10 degrees Celsius produce measurable physiological stress, including elevated cortisol, blood pressure increases, and reduced peripheral blood flow. [2]

Buildings designed for temperate climates separate lobby from floor plate through gradual temperature setpoints. ASHRAE guidance for transition zones specifies intermediate temperatures. Indian buildings skip this because the standard was written for 3-month heat, not 9-month heat. Lobbies are treated as temporary pass-throughs, not occupied zones, so setpoint discipline drops. [3]

Biothermal Microconditioning addresses this by providing intermediate, person-level cooling. Pain transitions to solution happens in the lobby, not all at once. Evapotranspiration from areca palms, combined with shade and air movement, creates a thermal buffer zone. The transition from 42°C to comfortable breathing zone becomes gradual, mediated by living systems, not shock. Easy Retrofit. One day. Clusters placed in lobbies, stairwells, and transition zones. [4]