
BEYOND
SMART CITIES
wel come to
BEYOND SMART CITIES


BEYOND
SMART CITIES
ENERGY MODELING SPECIALIST
BEYOND SMART CITIES
BUILDING ENERGY MODELING
STEP-BY-STEP PROCEDURES FOR LEED CERTIFICATION
ONLINE PROFESSIONAL COURSES LED BY THE WORLD’S TOP SPECIALISTS
ONLINE TRAINING BY KRISHNAJI PAWAR
LEED AP(BD+C),GSAS CGP,GCP,ISO 14001
LEARN.BEYONDSMARTCITIES.IN

BEYOND SMART CITIES

MODULE L14

ASHRAE 55-2023: Thermal Environmental Conditions for Human Occupancy

KRISHNAJI PAWAR - CEO & FOUNDER

LEED AP(BD+C),GSAS CGP,GCP,ISO 14001

WWW.BEYONDSMARTCITIES.IN

BEYOND SMART CITIES

BUILDING ENERGY MODELING : STEP-BY-STEP PROCEDURES FOR LEED CERTIFICATION

ASHRAE 55-2023 is a standard developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to provide guidelines for acceptable thermal conditions in indoor environments. It aims to establish criteria for comfort and promote the health and well-being of occupants in residential, commercial, and institutional buildings.

Learning Objectives

- Introduction and Course Outline
- Building Energy Modeling Checklists
- Scaling an imported drawing from AutoCAD
- ASHRAE 55-2023
- BEM software inputs for the project section, facade, systems, and zones
- Setup and Running the Building Energy Modeling Simulation
- Review BEM Software Output Reports.
- Sample Energy Modeling Report
- Summary and Resources
- BEMP Practice Test V.4.1

BEYOND SMART CITIES

INTRODUCTION

- Developed by ASHRAE to establish comfort criteria in residential, commercial, and institutional buildings.
- Emphasizes adaptive comfort model, allowing occupants to adjust behavior and clothing in response to fluctuating thermal conditions.
- Includes a thermal sensation scale to measure comfort levels.
- Sets acceptable ranges for thermal parameters, including 20°C to 24°C for sedentary indoor activities and 23°C to 26°C for summer.
- Uses two methodologies: static method and dynamic method for thermal comfort evaluation.
- Applicable across sectors like commercial spaces, educational institutions, and healthcare facilities.

ASHRAE 55-2023: THERMAL ENVIRONMENTAL CONDITIONS FOR HUMAN OCCUPANCY

- ASHRAE 55-2023 is a standard developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) to provide guidelines for acceptable thermal conditions in indoor environments.
- The standard aims to establish comfort criteria and promote the health and well-being of occupants in residential, commercial, and institutional buildings.
- Key concepts include Thermal Comfort, Adaptive Comfort Model, Thermal Sensation Scale, and Acceptable Ranges.

METHODOLOGY

- The static method relies on established comfort models like the PMV model, while the dynamic method acknowledges individual adaptability.
- The static method is suitable for environments where occupants cannot adapt their clothing or behavior.

Applications

- Thermal comfort can significantly affect productivity and employee satisfaction in commercial spaces.
- Optimal thermal conditions are critical for enhancing student concentration and learning outcomes in educational institutions.
- In healthcare facilities, patient comfort is paramount.

BEYOND SMART CITIES

CASE STUDIES AND EXAMPLES

- A study in an open-plan office showed that a localized control system improved employee satisfaction and productivity.
- A university classroom implemented a new ventilation system aligned with ASHRAE 55-2023 recommendations, resulting in improved student engagement and increased comfort levels.

CONCLUSION

ASHRAE 55-2023 is an essential standard in indoor environmental quality, providing a framework for understanding and achieving thermal comfort for human occupancy.

CONTACT US

+91 6363032722

info@beyondsmartcities.in

learn.beyondsmartcities.in

#55,HMR Layout ,Bengaluru ,India

THANK YOU