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

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ONLINE TRAINING BY KRISHNAJI PAWAR

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MODULE
L13

ANSI/ASHRAE
Standard 62.1-2022

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

ASHRAE 62.1-2022, also known as "Ventilation for Indoor Air Quality," is a standard developed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) to guide the design and operation of ventilation systems in buildings. It is crucial for ensuring adequate indoor air quality (IAQ) and addressing the need for proper ventilation to dilute indoor pollutants and provide fresh air to occupants

Learning Objectives

- Introduction and Course Outline
- Building Energy Modeling Checklists
- Scaling an imported drawing from AutoCAD
- **ANSI/ASHRAE Standard 62.1-2022**
- 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



INTRODUCTION

- Developed by ASHRAE to guide ventilation system design and operation in buildings.
- Essential for ensuring adequate indoor air quality (IAQ) and addressing indoor pollutants.
- Applicable to most commercial and institutional buildings, with exceptions for residential buildings, industrial processes, and healthcare facilities.
- Divided into sections: Scope and Purpose, Normative References, Definitions, Ventilation Rate Procedure, Indoor Air Quality Procedure, System and Equipment Design, Testing, Adjusting, and Balancing, and Maintenance.
- Emphasizes effective filtration and air distribution methods for high-quality outdoor air.
- Essential for compliance with ASHRAE 62.1-2022, ensuring practical airflow rates.
- Essential for addressing indoor air quality challenges in the 21st century.

ASHRAE 62.1-2022: VENTILATION FOR INDOOR AIR QUALITY OVERVIEW

- ASHRAE 62.1-2022, titled "Ventilation for Indoor Air Quality," is a standard by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) that provides guidelines for the design and operation of ventilation systems in buildings.
- The standard is crucial for ensuring adequate indoor air quality (IAQ) and addresses the need for proper ventilation to dilute indoor pollutants and provide fresh air to occupants.
- The standard is applicable to most commercial and institutional buildings, with specific exclusions for residential buildings, industrial processes, and certain types of healthcare facilities.
- It is divided into several sections, including Scope and Purpose, Normative References, Definitions, Ventilation Rate Procedure, Indoor Air Quality Procedure, System and Equipment Design, Testing, Adjusting, and Balancing, and Maintenance.





VENTILATION RATE PROCEDURE

- The standard calculates the minimum outdoor air intake rates required for various spaces within a building based on factors such as occupancy density and anticipated activities.
- The Indoor Air Quality (IAQ) Procedure provides a more nuanced approach, focusing on specific contaminants and their acceptable limits rather than relying solely on ventilation rates.



System and Equipment Design

- The standard addresses the design of ventilation systems and equipment, emphasizing the need for effective filtration and air distribution methods to ensure high-quality outdoor air.

TESTING, ADJUSTING, AND BALANCING

BALANCING

- The standard outlines procedures for testing, adjusting, and balancing (TAB) ventilation systems to ensure compliance with ASHRAE 62.1-2022.

Maintenance

- Regular inspections, filter changes, and system cleaning are crucial for sustaining IAQ over time.
- Adherence to ASHRAE 62.1-2022 is essential for addressing the challenges of indoor air quality in the 21st century.



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