



# 2023 Updated MA Commercial Stretch Code Summary

## Background and Introduction

Massachusetts has recently revamped its energy stretch code to make it more energy efficient. 300 cities and towns in Massachusetts currently follow the stretch code through their Green Community designation by the Department of Energy Resources.<sup>1</sup> All buildings permitted on or after July 1, 2023 must follow the new stretch code requirements. What does this mean for cities and towns who follow the stretch code? This resource will summarize all the new provisions and changes in the 2023 update to the Massachusetts energy stretch code for commercial buildings.

## Compliance Pathways

**Targeted Performance (Thermal Energy Demand Intensity (TEDI)) Pathway:** TEDI is defined as a measure of the thermal energy required by a building for space conditioning and for conditioning of ventilation air. This is an optional new compliance pathway for any building type but specifically applies to dormitories, fire and police stations, libraries, offices, schools, post offices, and town halls (greater than 20,000 square feet that have ventilation rates less than or equal to 0.5 cubic feet per minute per square foot (cfm/sf)). This pathway is intended to minimize heating demand with improved envelopes and heat recovery in ventilation systems. Since this pathway calculates TEDI using factors such as insulation and air tightness, it helps guide decisions on equipment sizing and other energy saving measures.

**Relative Performance (American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2019 Appendix G) Pathway:** This is an optional new compliance pathway for commercial high ventilation buildings (defined as projects with more than 0.5cfm/sf of ventilation) and for any building that does not fall under the requirements of the Targeted Performance Pathway. It stipulates that in order to earn efficiency credits, building design must comply with the Massachusetts Amended Appendix G of the ASHRAE 90.1-2019 standard. The stricter limit imposed here allows for further energy savings.

**Prescriptive Pathway:** This is an optional new compliance pathway for small commercial buildings (less than 20,000 square feet) that provides a mandatory list of measures that buildings must meet or exceed in order to comply with the code.

**HERS Compliance Pathway:** This is an existing alternative compliance pathway that can be used for Group-R buildings with multiple individual dwelling units. A Home Energy Rating System (HERS) score is assigned to the individual dwelling units based on each unit's energy features.

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<sup>1</sup> Municipalities can choose to follow the stretch code even if they are not in the Green Communities Program



**Passive House Compliance Pathway:** This is an existing alternative compliance pathway that can be used for all types of commercial buildings. This pathway requires a Passive House Institute United States (Phius) CORE 2021 or Phius ZERO 2021 certification or a Passive House International (PHI) certification.

### ***Additional Energy Efficiency Updates***

**Efficient Electrification:** For commercial high ventilation buildings, 25 percent of space heating load must be electric, and for high glazed wall system buildings (where 50 percent or more of the above grade wall is glazed) 100 percent of space heating load must be electric except for buildings using the Relative Performance Pathway because average ventilation at full occupancy is greater than 0.5 cfm/sf.

**High and Low Glazed Wall Systems:** Clarifies the language relating to the whole assembly U-factor.

**Air Leakage:** Adopts language used in the updated International Energy Conservation Code (IECC) 2024, reducing air leakage from 0.40 cubic feet per minute (CFM) at 75 pascals (CFM75) per square foot of thermal envelope area in the current code to 0.35 CFM75 per square foot of thermal envelope area in the updated stretch code. This change will create a tighter thermal envelope which will result in less energy and heat escaping through the building.

**Thermal Bridges:** Adds provisions to reduce thermal bridging, which occurs when heat moves across a building's envelope through construction materials that are more thermally conductive than their surroundings, such as steel or wood. This would increase the effectiveness of the building's thermal envelope by reducing heat loss.

**Economizers:** Strengthens requirements by requiring a dedicated outdoor air system (DOAS) which would improve indoor air quality and thermal comfort of occupants.

**Ventilation Energy Recovery:** Strengthens ventilation requirements by increasing energy recovery and adding new provisions to address high ventilation buildings and toxic exhaust.

**Wiring for Electric Vehicle (EV) Charging:** Requires 20 percent of parking spaces to be EV Ready, which means the spaces shall be wired to accommodate future electric vehicle use, for Group R and B, and 10 percent of spaces for all other occupancy types. This would help ease the transition to EV infrastructure and use.

**Additional Efficiency Requirements:** Point-based system for selecting options for improved energy efficiency, which gives building professionals more choice in their proposed design.

**Additions:** Additions less than 20,000 square feet and up to 100 percent of existing buildings can follow base code which is the 2021 IECC with MA amendments, whereas larger additions must follow stretch code.

**Alterations:** Alterations must follow prescriptive stretch pathway with 10 percent reduced envelope requirements. The stretch code also removes an exception; any altered walls shall now be brought up to prescriptive stretch code (besides historic buildings), meaning the building must meet a specific set of criteria as outlined in the code.