

## APPENDIX AA – STRETCH ENERGY CODE -

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### AN ACT RELATIVE TO GREEN COMMUNITIES

As part of Chapter 169 of the Acts of 2008, Massachusetts approved a stretch energy code concerning renewable and alternative energy and energy efficiency in the commonwealth that may be adopted locally. The stretch energy code establishes energy provisions above those required by the base building code. The stretch energy code must be formally adopted by a municipality in accordance with methodologies by law.

The ninth edition building code became first effective on October 20, 2017 and, with a shortened concurrency period, the new code came into full force and effect on **January 1, 2018**.

The new, ninth edition code is based on modified versions of the following *2015 International Codes as published by the International Code Council (ICC)*.

- The International Building Code (IBC);
- International Residential Code (IRC);
- International Existing Building Code (IEBC);
- International Mechanical Code (IMC);
- International Energy Conservation Code (IECC);
- International Swimming Pool and Spa Code (ISPSC);
- Portions of the International Fire Code (IFC).

Massachusetts amends these code fairly significantly to accommodate for unique issues in the commonwealth. This package of amendments revises the IRC only. Please see base code amendments for changes to other listed codes that comprise the ninth edition.

Please remember that the Massachusetts amendments posted on-line are *unofficial versions* and are meant for convenience only. Official versions of the Massachusetts amendments may be purchased from the State House Bookstore @ [Shop the Bookstore](#) and any of the I-Codes may be purchased from the International Code Council (ICC) @ [iccsafe.org](#).

Additionally, the ICC publishes transition documents that identify changes from the 2009 to the 2015 I-Codes for those who may have interest.

- [International Building Code \(IBC\) Transition](#)
- [International Residential Code \(IRC\) Transition](#).

*Note: The residential code is part of the overall building code, which is referred to as 780 CMR. It is considered to be Chapter 51 in the overall code, which is why you will see reference to 780 CMR Chapter 51 in the amendments. The residential code is applicable to detached one- and two-family dwellings, multiple-family dwellings (townhouses) not more than three stories in height above the grade plane and/or their accessory structures not more than three stories in height above grade. See the base code for other building types.*

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### SECTION AU102 (RB102) GENERAL DEFINITIONS

**SOLAR-READY ZONE.** A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

### SECTION AU103 (RB103) SOLAR-READY ZONE

**AU103.1 (RB103.1) General.** New detached one- and two-family dwellings, and multiple single-family dwellings (townhouses) with not less than 600 ft<sup>2</sup> (55.74 m<sup>2</sup>) of roof area oriented between 110° and 270° of true north shall comply with sections AU103.2 through AU103.8 (RB103.2 through RB103.8).

#### EXCEPTIONS:

1. New residential buildings with a permanently installed on-site renewable energy system.
2. A building with a solar-ready zone that is shaded for more than 70% of daylight hours annually.
3. Buildings and structures as designed and shown in construction documents that do not meet the conditions for a solar-ready zone area.

**AU103.2 (RB103.2) Construction Document Requirements for Solar-ready Zone.** Construction documents shall indicate the solar-ready zone where applicable.

**AU103.3 (RB103.3) Solar-ready Zone Area.** The total solar-ready zone area shall consist of an area not less than 300 ft<sup>2</sup> (27.87 m<sup>2</sup>) exclusive of mandatory access or set back areas as required by 527 CMR: *Board of Fire Prevention Regulations*. New multiple single-family dwellings (townhouses) three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 ft<sup>2</sup> (185.8 m<sup>2</sup>) per dwelling shall have a solar-ready zone area of not less than 150 ft<sup>2</sup> (13.94 m<sup>2</sup>). The solar-ready zone shall be composed of areas not less than five feet (1,524 mm) in width and not less than 80 ft<sup>2</sup> (7.44 m<sup>2</sup>) exclusive of access or set back areas as required by 527 CMR.

**AU103.4 (RB103.4) Obstructions.** Solar-ready zones shall consist of an area free from obstructions, including but not limited to vents, chimneys, and roof-mounted equipment.

**Note:** Nothing in AU103.4 (RB103.4) shall require any construction documents to be redesigned or reconfigured so as to create a solar-ready zone area.

**AU103.5 (RB103.5) Roof Load Documentation.** The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

**AU103.6 (RB103.6) Interconnection Pathway.** Construction documents shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.

**AU103.7 (RB103.7) Electrical Service Reserved Space.** The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

**AU103.8 (RB103.8) Construction Documentation Certificate.** A permanent certificate, indicating the solar-ready zone and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or registered design professional.

## Appendix AA STRETCH ENERGY CODE

**AA101 Purpose and Adoption.** The purpose of the stretch energy code is to provide a more energy efficient code alternative for new buildings. The stretch energy code may be adopted or rescinded by any municipality in the commonwealth in the manner prescribed by law.

**AA102 Applicability.** Municipalities that have adopted the stretch energy code shall use the energy efficiency requirements of this appendix as provided in AA103 and AA104. These requirements replace all previous stretch energy code requirements.

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**AA103 New Buildings.**

**AA103.1 R-use Buildings.** In all R-use buildings, of four stories or less above grade plane with one or more dwelling units, each dwelling unit shall comply with section N1106 (R406) of 780 CMR 51.00.

**AA103.2 Large Area and High Energy Use Buildings.** All buildings over 100,000 ft<sup>2</sup>, and new supermarkets, laboratories and conditioned warehouses over 40,000 ft<sup>2</sup> shall comply with 780 CMR 13.00: *Energy Efficiency* and shall demonstrate energy use per ft<sup>2</sup> at least 10% below the energy requirements of ANSI/ASHRAE/IESNA 90.1 *Appendix G* Performance Rating Method on either a site or source energy basis. The additional efficiency package options selected in accordance with C406.1 shall be included in calculating the baseline building performance value.

**Exception:** Exclusively R-use buildings complying with AA103.1 dwelling unit requirements.

**AA103.3 Other New Buildings.** New buildings not covered in AA103.1 and AA103.2 shall comply with 780 CMR 13.00: *Energy Efficiency* or Chapter 11 of 780 CMR 51.00 as applicable based on the use and occupancy of the building.

**AA104 Existing Buildings.** For alterations, renovations, additions or repairs of existing buildings in these municipalities, the energy efficiency requirements of 780 CMR 13.00 or Chapter 11 of 780 CMR 51.00 shall be used as applicable based on the use and occupancy of the building.

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