

Table C405.9(5)
Minimum Efficiency Requirements: Commercial Ovens

Fuel Type	Classification	Idle Rate	Cooking-Energy Efficiency, %	Test Procedure
Convection Ovens				
Gas	Full-Size	$\leq 12,000 \text{ Btu/h}$	≥ 46	ASTM F1496 - 13
Electric	Half-Size	$\leq 1.0 \text{ Btu/h}$	≥ 71	
	Full-Size	$\leq 1.60 \text{ Btu/h}$		
Combination Ovens				
Gas	Steam Mode	$\leq 200P^a + 6,511 \text{ Btu/h}$	≥ 41	ASTM F2861 - 17
	Convection Mode	$\leq 150P^a + 5,425 \text{ Btu/h}$	≥ 56	
Electric	Steam Mode	$\leq 0.133P^a + 0.6400 \text{ kW}$	≥ 55	
	Convection Mode	$\leq 0.080P^a + 0.4989 \text{ kW}$	≥ 76	
Rack Ovens				
Gas	Single	$\leq 25,000 \text{ Btu/h}$	≥ 48	ASTM F2093 - 18
	Double	$\leq 30,000 \text{ Btu/h}$	≥ 52	

- a. P = Pan Capacity: The number of steam table pans the combination oven is able to accommodate as per the ASTM F – 1495 – 05 standard specification.

1.26 Addition of New Section C405.10 Electric Vehicle Charging Station Capable

C405.10 Electric vehicle charging station capable. New parking garages and new parking lots powered by the energy services for a building, and with 10 or greater parking spaces, shall provide either:

1. Panel capacity and conduit for the future installation of minimum 208/240V 40-amp outlets for 5 percent of the total parking spaces and not less than two parking spaces; or
2. Minimum 208/240V 40-amp outlets for 5 percent of the total parking spaces and not less than two parking spaces.

1.27 Addition of New Section C405.11 Solar-Ready Zone

C405.11 Solar-ready zone (Mandatory). New buildings shall comply with the provisions of Appendix CA.

Village Board will likely
adopt NYStretch Energy Code 2020
in a month or two

2.16 Addition of New Section 10.4.7 Electric Vehicle Charging Station Capable

10.4.7 Electric vehicle charging station capable.

New parking garages and new parking lots powered by the energy services for a building, and with 10 or more parking spaces, shall provide either:

1. Panel capacity and conduit for the future installation of minimum 208/240V 40-amp outlets for 5 percent of the total parking spaces and not less than two parking spaces; or
2. Minimum 208/240V 40-amp outlets for 5 percent of the total parking spaces and not less than two parking spaces.

2.17 Addition of New Section 10.4.8 Solar-Ready Zone

10.4.8 Solar-ready zone (Mandatory)

Comply with the provisions of Appendix CA of 2018 IECC (as amended).

2.18 Amendments to Section 11.2 Compliance

11.2 Compliance.

Compliance with Section 11 will be achieved if

- a. All requirements of Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4, and Section C408 and Appendix CC (if mandated by local ordinance) of the 2018 IECC (as amended) are met;
- b. The *design energy cost*, as calculated in Section 11.5, does not exceed the *building energy use budget*, as calculated by the *simulation program* described in Section 11.4, and
- c. The *energy efficiency* level of components specified in the *building design* meet or exceed the *efficiency* levels used to calculate the design energy cost; and
- d. In new buildings 50,000 square feet and greater, an envelope performance factor shall be calculated in accordance with 90.1 Appendix C, and buildings shall comply with one of the following:
 - i. For multifamily, hotel/motel and dormitory building area types, the margin by which the *proposed envelope performance factor* exceeds the *base envelope performance factor* shall not be greater than 15 percent. For compliance with this requirement, the *base envelope performance factor* shall be calculated using metal framing operable windows. In buildings with window area accounting for 40 percent or more of the wall area, the SHGC of the *vertical fenestration* on east and west oriented façade may be reduced by the following multiplier to account for the permanent site shading from existing buildings or infrastructure.

APPENDIX CA

SOLAR-READY ZONE—COMMERCIAL

This appendix is informative and is not part of this code.

SECTION CA101 SCOPE

CA101.1 General. These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION CA102 GENERAL DEFINITION

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 CA103 SOLAR-READY ZONE

CA103.1 General. A solar-ready zone shall be located on the roof of buildings that are five stories or less in height above grade plane, and are oriented between 110 degrees and 270 degrees of true north or have low-slope roofs. Solar-ready zones shall comply with Sections CA103.2 through CA103.8.

Exceptions:

1. A building with a permanently installed, on-site renewable energy system.
2. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.
3. A building where the licensed design professional certifies that the incident solar radiation available to the building is not suitable for a solar-ready zone.
4. A building where the licensed design professional certifies that the solar zone area required by Section CA103.3 cannot be met because of extensive rooftop equipment, skylights, vegetative roof areas or other obstructions.

CA103.2 Construction document requirements for a solar-ready zone. Construction documents shall indicate the solar-ready zone.

CA103.3 Solar-ready zone area. The total solar-ready zone area shall be not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetative roof areas and mandatory access or set back areas as required by the *International Fire Code*. The solar-ready zone shall be a single area or smaller, separated sub-zone areas. Each sub-

zone shall be not less than 5 feet (1524 mm) in width in the narrowest dimension.

CA103.4 Obstructions. Solar ready zones shall be free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights and roof-mounted equipment.

CA103.5 Roof loads and documentation. A collateral dead load of not less than 5 pounds per square foot (5 psf) (24.41 kg/m²) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load shall be indicated on the construction documents.

CA103.6 Interconnection pathway. Construction documents shall indicate pathways for routing of conduit or piping from the solar-ready zone to the electrical service panel or service hot water system.

CA103.7 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 end of the panel that is opposite from the panel supply conductor connection.

CA103.8 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*.

3.13 Amendments to Section R404.1 Lighting equipment (Mandatory)

R404.1 Lighting equipment (Mandatory). Not less than 90 percent of the permanently installed lighting fixtures shall use lamps with an efficacy of at least 65 lumens per watt or have a total luminaire efficacy of at least 45 lumens per watt.

R404.1.1 Lighting equipment (Mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights.

3.14 Addition of New Section R404.2 Electrical power packages (Mandatory)

R404.2 Electrical power packages (Mandatory). New buildings shall comply with the following:

1. Solar-ready zone. Detached one and two-family dwellings and townhouses where the conditioned space is greater than 1,400 square feet shall comply with the requirements of Appendix RA.
2. Electrical Vehicle Service Equipment Capable. Detached one or two-family dwellings and townhouses with parking area provided on the *building site* shall provide a 208/240V 40-amp outlet for each dwelling unit or panel capacity and conduit for the future installation of such an outlet. Outlet or conduit termination shall be adjacent to the parking area. For residential occupancies where there is a common parking area, provide either:
 - a. Panel capacity and conduit for the future installation of 208/240V 40-amp outlets for 5 percent of the total parking spaces, but not less than one outlet, or
 - b. 208/240V 40-amp outlets for 5 percent of the total parking spaces, but not less than one outlet.

3.15 Amendments to Table R406.4 Maximum Energy Rating Index

**Table R406.4
Maximum Energy Rating Index**

Climate Zone	Energy Rating Index ^a
4	50
5	50
6	50
a. Where <i>on-site renewable energy</i> is included for compliance using the ERI analysis of Section R406.4, the building shall meet the mandatory requirements of Section R406.2, and the building thermal envelope shall be greater than or equal to the levels of efficiency and SHGC in Table R402.1.2 or R402.1.4 of the 2015 <i>International Energy Conservation Code</i> .	

APPENDIX RA

SOLAR-READY PROVISIONS—DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

This appendix is informative and is not part of this code.

SECTION RA101 SCOPE

RA101.1 General. These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION RA102 GENERAL DEFINITION

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 RA103 SOLAR-READY ZONE

RA103.1 General. New detached one- and two-family dwellings, and townhouses with not less than 600 square feet (55.74 m²) of roof area oriented between 110 degrees and 270 degrees of true north shall comply with Sections RA103.2 through RA103.8.

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 percent of daylight hours annually.

RA103.2 Construction document requirements for solar-ready zone. Construction documents shall indicate the solar-ready zone.

RA103.3 Solar-ready zone area. The total solar-ready zone area shall be not less than 300 square feet (27.87 m²) exclusive of mandatory access or set back areas as required by the *International Fire Code*. New townhouses three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 square feet (185.8 m²) per dwelling shall have a solar-ready zone area of not less than 150 square feet (13.94 m²). The solar-ready zone shall be composed of areas not less than 5 feet (1524 mm) in width and not less than 80 square feet (7.44 m²) exclusive of access or set back areas as required by the *International Fire Code*.

RA103.4 Obstructions. Solar-ready zones shall be free from obstructions, including but not limited to vents, chimneys, and roof-mounted equipment.

RA103.5 Roof load documentation. The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

RA103.6 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.

RA103.7 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.

RA103.8 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.