

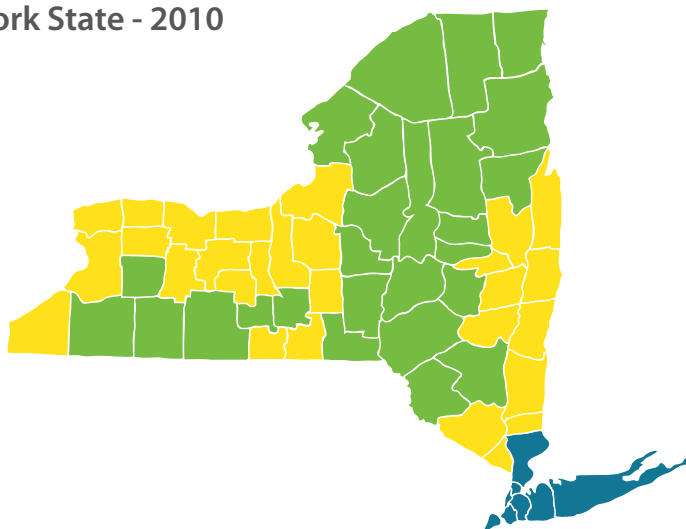
# NYSERDA ENERGY CODES TRAINING

## Energy Code Compliance Guide for Homes in New York

Energy Conservation Construction Code of New York State - 2010

### Step-by-Step Instructions

1. Using the climate zone map to the right, match the jurisdiction to the appropriate ECCCNY-2010 climate zone. Use the simplified table of ECCCNY-2010 building envelope requirements (below) to determine the basic thermal envelope requirements associated with the jurisdiction.
2. Use the “Outline of ECCCNY-2010 Requirements” printed on the back of this sheet as a reference or a categorized index to the ECCCNY-2010 requirements. Construct the building according to the requirements of the ECCCNY-2010 and other applicable code requirements.



### Energy Conservation Construction Code of New York State (ECCCNY-2010)

The ECCCNY-2010 was developed by the New York State Department of state and adopted by the Code Council of New York State, enforced as of December, 2010. The ECCCNY-2010 is based on the 2009 IECC, the national model standard for energy-efficient residential construction recognized by federal law. The American Recovery and Reinvestment Act of 2009 makes funds available to jurisdictions, like New York, that have committed to adopt and implement the 2009 IECC, therefore New York has adopted the ECCCNY-2010 with state-specific enhancements. Users of this guide are strongly recommended to obtain a copy of the ECCCNY-2010 and refer to it for any questions and further details on compliance. ECCCNY-2010 compliance training is also available from many sources. To obtain a copy of the ECCCNY-2010, contact the ICC or visit [www.iccsafe.org](http://www.iccsafe.org).

#### Climate Zone 6 Counties

Allegany	Franklin	Montgomery	Sullivan
Broome	Fulton	Oneida	Tompkins
Cattaraugus	Hamilton	Otsego	Ulster
Chenango	Herkimer	Schoharie	Warren
Clinton	Jefferson	Schuyler	Wyoming
Delaware	Lewis	St. Lawrence	
Essex	Madison	Steuben	

#### Climate Zone 5 Counties

Albany	Erie	Ontario	Saratoga
Cayuga	Genesee	Orange	Schenectady
Chautauqua	Greene	Orleans	Seneca
Chemung	Livingston	Oswego	Tioga
Columbia	Monroe	Putnam	Washington
Cortland	Niagara	Rensselaer	Wayne
Dutchess	Onondaga	Rockland	Yates

#### Climate Zone 4 Counties

Bronx	Nassau	Queens	Suffolk
Kings	New York	Richmond	Westchester

The simplified table of building envelope requirements (on following page) applies to new residential buildings, as defined in the ECCCNY-2010, with wood framing and/or mass walls. For steel-framed buildings, the same window requirements apply; however, refer to ECCCNY-2010 section 402.2.5 for specific ceiling, wall and floor insulation R-value requirements. The table also applies to all additions, alterations and replacement windows. The table is based upon the thermal envelope requirements in the ECCCNY-2010 prescriptive compliance option for the appropriate climate zones (Table 402.1.1).

# Outline of ECCNYS-2010 Requirements for New Homes

	Windows			Insulation				Foundation		
	Fenestration U-Factor	Skylight U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and Depth	Crawl Space Wall R-Value
<b>Zone 6</b>	0.35	0.60	NR	49	20 or 13+5	15/19	30	15/19	10, 4 ft.	10/15
<b>Zone 5</b>	0.35	0.60	NR	38	20 or 13+5	13/17	30	10/13	10, 2 ft.	10/15
<b>Zone 4</b>	0.35	0.60	NR	38	13	5/10	19	10/13	10, 2 ft.	10/15

NR indicates No Requirement

## Fenestration (Sections 202, 303.1.3, 402.1.1, 402.3, and 402.4.4)

- Fenestration (including all windows and doors) and Skylight U-factor and Glazed Fenestration SHGC values are maximum acceptable levels. The Glazed Fenestration maximum applies to all windows, skylights and glazed doors. An area-weighted average of fenestration products is permitted to satisfy these requirements.
- Window, door and skylight U-factors and SHGCs must be determined from a National Fenestration Rating Council (NFRC) rating that is independently certified and set forth on a label on the product or from a limited table of product default values in the ECCCNYS-2010. See [www.nfrc.org](http://www.nfrc.org) for more details on the NFRC rating system.
- Windows must also be labeled in a manner to show that they meet the ECCCNYS-2010 air infiltration requirements.
- Up to 15 square feet of glazed fenestration is permitted to be exempt from the U-factor and SHGC requirements. One side-hinged opaque door assembly up to 24 square feet is exempted from the Fenestration U-factor requirement. These exceptions apply in the prescriptive path only. Special exceptions may apply for fenestration U-factor requirements in thermally isolated sunrooms. (see ECCCNYS-2010 section 402.3.5)

## Insulation (Sections 202, 303.1.4, and 402)

- Insulation R-values are minimum acceptable levels and must be determined according to FTC rule. Please also refer to section 402.1.5 for guidance on attaching siding over insulative sheathing.
- R values for walls represent the sum of cavity insulation plus insulated sheathing, if any. The second R-value for mass walls applies when more than half the insulation is on the interior of the mass wall.
- The insulation for basement walls must be from the top of the wall down 10 feet below grade or to the basement floor, whichever is less. Insulation requirements for crawl space walls are further specified in section 402.2.9.
- Floor insulation must be installed to maintain contact with the underside of the subfloor decking.
- Access doors from conditioned spaces to unconditioned spaces (e.g., attics and crawl spaces) shall be weatherstripped and insulated to a level equivalent to the insulation on the surrounding surfaces.

- Insulation requirements for slab on grade floors is further specified in ECCCNYS-2010 section 402.2.8. R-5 shall be added to the required slab edge R-values for heated slabs.
- Special Insulation exceptions related to ceilings with attic spaces, ceilings without attic spaces, masonry veneer and thermally isolated sunrooms are set forth in section 402. Also see guidance on unvented attic spaces in section 402.

## Air Sealing (Section 402.4)

- The building envelope is required to be properly sealed to limit air infiltration. Air tightness and insulation installation must be demonstrated either by testing or visual inspection. Recessed lighting must also be sealed to limit air leakage.

## Ducts (Sections 202 and 403.2)

- Ducts must be tested for tightness, as specified in ECCCNYS-2010 section 403.2.2, except where the air handler and all ducts are located within conditioned space.
- Supply ducts in attics shall be sealed and insulated to a minimum of R-8. All other ducts shall be sealed and insulated to a minimum of R 6. Ducts or portions thereof located completely inside the building thermal envelope are exempted from the insulation requirement. Air handlers, filter boxes and building cavities used as return ducts must also be properly sealed.

## Documentation (Sections 103, 303.3, and 401.3)

- The appropriate construction documents and preventative maintenance information must be provided, along with a permanent certificate listing certain insulation, window and HVAC performance information.

## Systems (Sections 403.1, 403.3, 403.4, 403.6, 403.8, and 403.9)

- HVAC system must be properly sized using a procedure like ACCA Manual J.
- Temperature controls must be installed, including at least one programmable thermostat in each dwelling unit.
- Mechanical system piping must be insulated to a minimum of R-3.
- Specific requirements apply to circulating hot water systems, mechanical ventilation, snow melt systems, and pools.

## Lighting (Sections 202 and 404.1.1)

- A minimum of 50% of lamps in permanently installed fixtures must be high-efficacy as defined in the ECCCNYS-2010.