

CHAPTER 3

CLIMATE ZONES, DESIGN CONDITIONS, MATERIALS, EQUIPMENT AND SYSTEMS

SECTION ECC 301 CLIMATE ZONES

301.1 General.

Climate zones from Table 301.1 shall be used in determining the applicable requirements from Chapters 4 and 5.

TABLE 301.1
CLIMATE ZONES BY COUNTY, ALL ZONES ARE
CATEGORY "A" OR, MOIST DESIGNATIONS

Climate Zone 4			
Bronx	Nassau	Queens	Suffolk
Kings	New York	Richmond	Westchester
Climate Zone 5			
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 6			
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	

SECTION ECC 302 DESIGN CONDITIONS

302.1 Interior design conditions.

The interior design temperatures used for heating and cooling load calculations shall be a maximum of 72°F (22°C) for heating and minimum of 75°F (24°C) for cooling.

SECTION ECC 303 MATERIALS, SYSTEMS AND EQUIPMENT

303.1 Identification.

Materials, systems and equipment shall be identified in a manner that will allow a determination of compliance with the applicable provisions of this code.

303.1.1 Building thermal envelope insulation.

An R-value identification mark shall be applied by the manufacturer to each piece of building thermal envelope insulation 12 inches (305 mm) or greater in width. Alternately, the insulation installers shall provide a certification listing the type, manufacturer and R-value of insulation installed in each element of the building thermal envelope. For blown or sprayed insulation (fiberglass and cellulose), the

initial installed thickness, settled thickness, settled R-value, installed density, coverage area and number of bags installed shall be listed on the certification. For sprayed polyurethane foam (SPF) insulation, the installed thickness of the areas covered and R-value of installed thickness shall be listed on the certification. The insulation installer shall sign, date and post the certification in a conspicuous location on the job site.

303.1.1.1 Blown or sprayed roof/ceiling insulation.

The thickness of blown-in or sprayed roof/ceiling insulation (fiberglass or cellulose) shall be written in inches (mm) on markers that are installed at least one for every 300 square feet (28 m²) throughout the attic space. The markers shall be affixed to the trusses or joists and marked with the minimum initial installed thickness with numbers a minimum of 1 inch (25 mm) in height. Each marker shall face the attic access opening. Spray polyurethane foam thickness and installed R-value shall be listed on certification provided by the insulation installer.

303.1.2 Insulation mark installation.

Insulating materials shall be installed such that the manufacturer’s R-value mark is readily observable upon inspection.

303.1.3 Fenestration product rating.

U-factors of fenestration products (windows, doors and skylights) shall be determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking such a labeled U-factor shall be assigned a default U-factor from Table 303.1.3(1) or 303.1.3(2). The solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking such a labeled SHGC shall be assigned a default SHGC from Table 303.1.3(3).

TABLE 303.1.3(1)
DEFAULT GLAZED FENESTRATION U-FACTORS

FRAME TYPE	SINGLE PANE	DOUBLE PANE	SKYLIGHT	
			SINGLE	DOUBLE
Metal	1.20	0.80	2.00	1.30
Metal with thermal break	1.10	0.65	1.90	1.10
Nonmetal or metal clad	0.95	0.55	1.75	1.05
Glazed block	0.60			

TABLE 303.1.3(2)
DEFAULT DOOR U-FACTORS

DOOR TYPE	U-FACTOR
Uninsulated metal	1.20
Insulated metal	0.60
Wood	0.50
Insulated, nonmetal edge, max 45% glazing, any glazing double pane	0.35

TABLE 303.1.3(3)
DEFAULT GLAZED FENESTRATION SHGC

SINGLE GLAZED		DOUBLE GLAZED		GLAZED BLOCK
Clear	Tinted	Clear	Tinted	
0.8	0.7	0.7	0.6	0.6

303.1.4 Insulation product rating.

The thermal resistance (R-value) of insulation shall be determined in accordance with the U.S. Federal Trade Commission R-value rule (CFR Title 16, Part 460, May 31, 2005) in units of h x ft² x °F/Btu at a mean temperature of 75°F (24°C).

303.1.5 Fireplaces.

Tight-fitting noncombustible fireplace doors to control infiltration losses shall be installed on fireplace openings as provided herein:

1. Masonry fireplaces or fireplace units designed to allow an open burn.
2. Decorative appliances (ANSI Standard Z21.60 gas-log style unit) installed in vented solid fuel fireplaces.
3. Vented decorative gas fireplace appliances (ANSI Standard Z21.50 unit).

Fireplaces shall be provided with a source of combustion air as required by the fireplace construction provisions of the *Building Code of New York State*, the *Residential Code of New York State* or the *New York City Construction Codes*, as applicable.

303.2 Installation.

All materials, systems and equipment shall be installed in accordance with the manufacturer's installation instructions and the *Uniform Fire Prevention and Building Code*, and in the City of New York, the *New York City Construction Codes*.

303.2.1 Protection of exposed foundation insulation.

Insulation applied to the exterior of basement walls, crawl space walls and the perimeter of slab-on-grade floors shall have a rigid, opaque and weather-resistant protective covering to prevent the degradation of the insulation's thermal performance. The protective covering shall cover the exposed exterior insulation and extend a minimum of 6 inches (153 mm) below grade.

303.3 Maintenance information.

Maintenance instructions shall be furnished for equipment and systems that require preventive maintenance. Required regular maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label shall include the title or publication number for the operation and maintenance manual for that particular model and type of product.