

# NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE

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Part 6 Compliance Form - 6B  
Building Design by Thermal Rating Method  
(for buildings with three or more dwelling units)

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Date: \_\_\_\_\_

Building Address: \_\_\_\_\_  
\_\_\_\_\_

County: \_\_\_\_\_

Architect, Engineer or  
Contractor: \_\_\_\_\_

Phone: \_\_\_\_\_

Permit Applicant: \_\_\_\_\_

Phone: \_\_\_\_\_

## 1. HEATING DEGREE DAYS (Table 2-1)

5000       6000       7000       8000       9000

## II. BUILDING DESCRIPTION (Pre-qualifying Conditions)

If the building does not meet all of the following pre-qualifying conditions, Part 6 of the Energy Code may not be used.

- Building is three or more dwelling units. (For 1 or 2 dwelling units use form 6A)
- Building is three stories or less in height.
- Dwelling units comprise the majority of conditioned floor area.  
\_\_\_\_\_ % square feet dwelling units.

### III. PROJECT TYPE

- New Construction
  Substantial renovation of existing building  
 Addition to existing building
  Exempt (7810.6c) \_\_\_\_\_

### IV. HEATING SYSTEM TYPE

- Gas-fired
  Oil-fired
  Heat pump
  Electric

### V. BUILDING ENVELOPE SYSTEMS: 7815.2

Total Thermal Rating: 7815.2(a)

The total Thermal Rating for this building is \_\_\_\_\_. The Worksheets used to develop this Thermal Rating are attached. A Thermal Rating of zero or greater indicates that the building envelope complies with the Energy Code .

Vapor Retarder: 7815.2(b)

Location Required	Location Provided	Type Provided	Plan/Spec. Reference
Walls			
Ceiling			
Floor			
Other			

Insulation Continuity: 7815.2(c)

Location Required	Required	Specified	Plan/Spec. Reference
Plate lines	Continuity		
Sill lines	Continuity		
Band joists	Continuity		
Corners	Continuity		
Party walls	R-10 each side		

Infiltration Rate: 7815.2(f)

Element	Maximum Rates	Specified	Plan/Spec. Reference
Windows	0.37 cfm/lin. ft.		
Doors	0.50 cfm/sq. ft.*		

\* Vestibule or revolving doors are required for main entrance doors that open into a common lobby.

Joint Sealing: 7815.2(f)

Joint Location	Sealant Type	Plan/Spec. Reference
Windows		
Doors frames		
Walls at roof/ceiling		
Walls at floors/foundation		
Wall panels		
Utility entrance		
Penetrations		
Other		
Other		

Air Infiltration Barrier: 7815.2(f)

Location	Required?	Specified	Plan/Spec. Reference
Walls	yes / no		
Other	yes / no		

Fireplace: 7815.2(g)

Required	Specified	Plan/Spec. Reference
Outside combustion air duct with damper		
Flue damper with max. 20 cfm, or damper & non-combustible doors		
Gas fireplace ignition		

VI. HVAC EQUIPMENT PERFORMANCE REQUIREMENTS: 7815.11

Gas & Oil Fired Combustion Heating Equipment (Table 4-5)

Category	Size Specification	Min. Performance Required	Performance Specified	Plan/Spec. Reference

Heat Pumps (Table 4-6)

Category & Size Specified	Source / Power	Minimum Performance Required		Performance Specified		Plan/Spec. Reference
		Heating	Cooling	Heating	Cooling	
	/					
	/					

Packaged Terminal Air Conditioners & Heat Pumps (Table 4-7)

Category & Size Specified	Minimum Performance Required		Performance Specified		Plan/Spec. Reference
	Heating	Cooling	Heating	Cooling	

### Central Air Conditioners (Table 4-8)

Category	Specified Size / Power	Minimum Performance Required	Performance Specified	Plan/Spec. Reference
	/			
	/			

### VII. HVAC CONTROL: 7815.12

#### Temperature Control

Required	Specified	Plan/Spec. Reference
Thermostat each dwelling unit		
Thermostat each system		
Shut off at each terminal unit		

#### Thermostat

Required	Specified	Plan/Spec. Reference
Minimum range 45°F-85°F		
Deadband range $\geq 5^\circ$		
Automatic capability		

#### HVAC Reset

Hydronic System	Required	Specified	Plan/Spec. Reference
Heating & cooling $\geq$ 600,000 Btu/hr	supply water temp. reset		
Heating only $\geq$ 300,000 Btu/hr	supply water temp. reset		

VIII. DUCT SYSTEM: 7815.13

**Duct/plenum Insulation**

$\Delta t$  = duct/plenum air temp. - surrounding temp. = \_\_\_\_\_ °F - \_\_\_\_\_ °F = \_\_\_\_\_

$\Delta t$	Min. Required	Value Provided	Plan/Spec. Reference
< 52.5°F	R = 3.5		
> 52.5°F	R = $\Delta t/15$		
exempt: cite provision			

Duct Sealing

Duct Pressure	Joint Seal Required			Sealant Specified	Plan/Spec. Reference
	trans-verse	longi-tudinal	penet-rations		
≤ 2" w.g.	yes	no	no		

IX. VENTILATION SYSTEMS: 7815.14

Shutoff Dampers

System Capacity	Required	Specified	Plan/Spec. Reference
< 1000 cfm	tight shut-off		
≥ 1000 cfm	max. leakage 20 cfm		
Exempt: cite provision			

Ventilation Controls

Design Operation	Required	Specified	Plan/Spec. Reference
Continuous	automatic control		
Non-continuous	independent, accessible control		

X. PIPING INSULATION: 7815.15 (Table 4-4)

System Type	Design Fluid Temp.		Pipe Size				
			Runout	≤ 1"	1 1/4" - 2"	2 1/2" - 4"	5" - 6"
Heating			Insulation Thickness*				
Steam, steam condensate, hot water		Min. Req.					
		Provided					
		Reference					
Cooling							
chilled water, brine, refrigerant		Min. Req.					
		Provided					
		Reference					

\* at R = 4.0 to 4.6 per inch of thickness.

XI. SERVICE WATER HEATING: 7815.21

Service Water Heating Equipment (Table 4-12)

Category	Type of Fuel	Minimum Performance Required	Performance Specified	Plan/Spec. Reference

Insulation

Category	Size	Minimum Insulation Required*	Insulation Specified	Plan/Spec. Reference
Storage Tank	all	R ≥ 6		
Piping				

\* See Table 4-4 for pipe insulation requirements.

## Service Water Heating Controls

Category	Required Control	Control Provided	Plan/Spec. Reference
System	automatic control		
System	temp. setting range		
Circulating	pump shutoff		
Pool Heater	IID		
Pool Heater	on/off switch		
Electric water heater	separate switch		
Gas/oil water heater	separate valve		

## XII. ELECTRICAL & LIGHTING SYSTEMS AND EQUIPMENT: 7815.31

### Electrical Motors (Table 4-13)

Motor Application	HP	Open/Close	Poles/RPM	Min. Efficiency Required	Efficiency Specified	Plan/Spec. Reference
			/			
			/			

### Electric Meters

Building Type	Dwelling Units	Separate Meter Required	Meter(s) Provided	Plan/Spec. Reference
Residential	yes	yes		
Residential	no	no	-	-
Non-residential	no	no	-	-

### Lighting Controls:

(does not apply to dwelling units or portion of building containing dwelling units)

General Lighting Controls:			
Room Size/Schedule	Control Required	Control Specified	Plan/Spec. Reference
< 500 sq. ft.	Accessible Control		
> 500 sq. ft.	Bi-level Control or Dimmer		
< 24 hour use	Programmable or Occupancy Sensor		
24 hour use	1 Control for each 500 Full S.F.		
Other Lighting Controls:			
Application	Control Required	Control Specified	Plan/Spec. Reference
Highlighting	Independent Control		
Special	Independent Control		
Exterior Lighting	Timer/photocell		

### Fluorescent Lamp Ballasts:

(does not apply to dwelling units or portion of building containing dwelling units)

Ballast Type (Table 4-14)	Input Voltage	BEF Required	BEF Specified	Power Factor Specified	Plan/Spec. Reference

### 3 Lamp Luminaries:

(does not apply to dwelling units or portion of building containing dwelling units)

Ballast Type	Required	Specified	Plan/Spec. Reference
	3-lamp ballast or tandem wired		

### Fluorescent Lamps:

(does not apply to dwelling units or portion of building containing dwelling units)

Lamp Type (Table 4-15)	Min. LPW Required	LPW Specified <sup>1</sup>	CRI Specified <sup>2</sup>	Plan/Spec. Reference

<sup>1</sup> May be driven by dividing rated lumen output by rated lamp wattage.

<sup>2</sup> CRI may not be less than 67.

### Luminaries:

(does not apply to dwelling units or portion of building containing dwelling units)

Information is provided:		<input type="checkbox"/> below <input type="checkbox"/> on fixture schedule, refer to _____		
Luminaire Type (Table 4-16)	Lumen Distribution	Minimum TLE Required	TLE Specified	Plan/Spec. Reference

### Lighting Systems:

(does not apply to dwelling units or portion of building containing dwelling units)

Building Interiors (Table 4-18)			
Building Type	Max LPL Permitted	LPL Specified	Plan/Spec. Reference
Building Exteriors (Table 4-19)			
Location	Max LPL Permitted	LPL Specified	Plan/Spec. Reference
Exit			
Entrance: Canopy <input type="checkbox"/> yes <input type="checkbox"/> no			
Facade			

## SUMMARY OF TOTAL THERMAL RATING

If the total thermal rating below is zero or greater, the envelope portion of the building is in compliance with the Energy Code.

A. WALL ASSEMBLY	AREA	U-VALUE	TABLE USED	THERMAL RATING
A1 Net Walls	$A_w$ _____	$U_w$ _____	_____	⇒ _____
	$A_w$ _____	$U_w$ _____	_____	⇒ _____
A2 Glazing	$A_g$ _____	$U_g$ _____	_____	⇒ _____
	$A_g$ _____	$U_g$ _____	_____	⇒ _____
A3 Doors	$A_d$ _____	$U_d$ _____	_____	⇒ _____
	$A_d$ _____	$U_d$ _____	_____	⇒ _____
<b>B. ROOF/CEILING ASSEMBLY</b>				
B1 Roof/Ceiling	$A_r$ _____	$U_r$ _____	_____	⇒ _____
	$A_r$ _____	$U_r$ _____	_____	⇒ _____
B2 Skylights	$A_g$ _____	$U_g$ _____	_____	⇒ _____
Subtotal Thermal Rating for Section B (B1+B2):				
<b>C. ENTER DATA AS APPLICABLE (Either C1, C2, or C3)</b>				
C1 Floor	$A_f$ _____	$U_f$ _____	_____	⇒ _____
C2 Foundation Wall				
Wall Perimeter	_____ ft.			
Above Grade Exposure	_____ ft.			
Insulation Depth				
<input type="checkbox"/> 24" <input type="checkbox"/> 48"	⇒ _____			
<input type="checkbox"/> 84" <input type="checkbox"/> Footing	$U_f$ _____	_____	_____	_____
	Perimeter	R-Value		
C3 Slab Edge Insulation	_____	_____	_____	⇒ _____
Subtotal Thermal Rating for Section C (C1+C2+C3):				
D. TOTAL THERMAL RATING (A+B+C).....				