# NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE

Part 4 Compliance Form
Building Design by Component Performance

Date: _____

Building Address: _____

_____

County: _____

Architect, Engineer or Contractor: _____

Phone: _____

Permit Applicant: _____

Phone: _____

## I. Building Type:

☐ Residential, four stories or more

☐ Non-residential

☐ New Construction

☐ Addition to existing building

☐ Substantial renovation of existing bldg

☐ Exempt (7810.6c)

## II. Design Criteria: 7811

B. Outdoor Design Conditions (Table 2-1):

Heating degree days = _____

Winter design dry-bulb temp = _____ $^{o}$F

Summer design dry-bulb temp = _____ $^{o}$F

Coincident wet-bulb temp = _____ $^{o}$F

C. Indoor Design Conditions:

Indoor design temperature

$72^{o}$F max. heating

$78^{o}$F min. cooling

Special application (documentation attached)

Application type: _____

Indoor design temp: _____

$\underline{U_o = Uo \text{ (Table 4-1)} \times \triangle t \text{ (table 2-1)}}$ = _____

$\triangle t$ (design)

## III. Building Envelope Thermal Performance: 7813.3

| Envelope System | Max Value Allowed | Value Provided | Plan/Spec. Reference |
|---|---|---|---|
| Walls | $U_o = 0.20$ | $U_o =$ | |
| Roofs | $U_o = 0.05$ | $U_o =$ | |
| Floors | $U_o = 0.05$ | $U_o =$ | |
| Found. walls below grade | $R = 5.00$ | $R =$ | |
| Slab edge | $R_i = 5.00$ | $R_i =$ | |
| Non-conforming envelope* | | | |

*Non-conforming envelope heat loss shall not exceed conforming envelope heat loss (documentation attached)

## Vapor Retarder: 7813.(c)

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

## Insulation Continuity: 7813.3(d)

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

## Shading Coefficient: 7813.3(e)

| % Glazing | Max. Value Allowed | Value provided | Plan/Spec. Reference |
|---|---|---|---|
| Walls | $SC_o$ = | $SC_o$ = | |
| Roofs | $SC_o$ = | $SC_o$ = | |

# IV. AIR INFILTRATION: 7813.4

## Infiltration Rate: 7813.4(a), (d)

| Element | Maximum Rates | Rates Specified | Plan/Spec. Reference |
|---|---|---|---|
| Windows | .037 cfm/lin. ft. | | |
| Residential doors* | 0.50 cfm/sq. ft. | | |
| Non-residential doors* | 1.25 cfm/sq. ft. | | |

* Vestibule or revolving doors are required for main entrance doors serving a common lobby.

## Joint Sealing: 7813.4(b)

| Joint Location | Sealant Type Specified | Plan/Spec. Reference |
|---|---|---|
| Windows | | |
| Door frames | | |
| Walls at roof/ceiling | | |
| Walls at floors/found. | | |
| Wall panels | | |
| Utility entrance | | |
| Penetrations | | |
| Other | | |

## Air Infiltration Barrier: 7813.4(c)

| Location | Required? | Type Specified | Plan/Spec. Reference |
|---|---|---|---|
| Walls | yes / no | | |
| Ceiling | yes / no | | |
| Floors | yes / no | | |
| Other | yes / no | | |

## V. FIREPLACE: 7813.5

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

## VI. HVAC CONTROL: 7813.13

## Temperature Control: 7813.13(a)

| Required | Location, Type Specified | Plan/Spec. Reference |
|---|---|---|
| Residential: | | |
| Thermostat each dwelling unit | | |
| Shut off at each dwelling unit | | |
| Non Residential | | |
| Thermostat each system | | |
| Thermostat each zone | | |

## Thermostat: 7813.13(b)

| Required | Type Specified | Plan/Spec. Reference |
|---|---|---|
| Minimum range 45°F-85°F | | |
| Deadband range ≥5° | | |
| Automatic capability | | |

## Humidistat: 7813.13(c)

| Mode | Humidity Setting | Setting Provided | Plan/Spec. Reference |
|---|---|---|---|
| Humidification | 30% RH or less | | |
| Dehumidification | 60% RH or less | | |

## VII. HVAC RESET: 7813.14

| System Type | Required | Specified | Plan/Spec. Reference |
|---|---|---|---|
| Reheat | cold air supply temp. reset | | |
| Dual Duct/ Multizone | cold & hot deck air supply temp. reset | | |
| Recooling | hot air supply temp. reset | | |
| Hydronic | | | |
| Heating & cooling ≥ 600,000 Btu/hr. | supply water temp. reset | | |
| Heating only ≥ 300,000 Btu/hr. | supply water temp. reset | | |

## VIII. ECONOMIZER CYCLE: 7813.15

| Required | Specified | Plan/Spec. Reference |
|---|---|---|
| Outdoor air for cooling | | |
| Heat rejection without refrigeration | | |
| Exempt: cite provision | | |

## IX. VENTILATION SYSTEMS: 7813.16

### Shutoff Dampers: 7813.16(a)

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

### Controls: 7813.16(b)

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

## X. HVAC PUMPING SYSTEMS: 7813.17

| Pump Size | Required | Specified | Plan/Spec. Reference |
|---|---|---|---|
| > 25 hp | variable speed | | |
| exempt: cite provision | | | |

## XI. PIPING INSULATION: 7813.18 (Table 4-4)

| System Type | Design Fluid Temp. | | Pipe Size | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Runout | ≤ 1" | 1 1/4" - 2 | 2 ½" - 4" | 5" - 6" | ≥ 8" |
| 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.

## XII. DUCT/PLENUM INSULATION: 7813.19

$\Delta t$ = duct/plenum air temp. - surrounding temp. = _____ $^{o}$F -_____ $^{o}$F=_____

| $\Delta t$ | Min. Required | Value Provided | Plan/Spec. Reference |
|---|---|---|---|
| < 52.5$^{o}$F | R = 3.5 | | |
| > 52.5$^{o}$F | R = $\Delta t$/15 | | |
| exempt: cite provision | | | |

## XIII. DUCT SEALING: 7813.20

| Duct Pressure | Joint Seal Required | | | Sealant Specified | Plan/Spec. Reference |
|---|---|---|---|---|---|
| | trans-verse | longi-tudinal | penet-rations | | |
| ≤ 2" w.g. | yes | no | no | | |
| > 2"< 4" w.g. | yes | yes | no | | |
| ≥ 4" w.g. | yes | yes | yes | | |

## XIV. HVAC EQUIPMENT PERFORMANCE REQUIREMENTS: 7813.21

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

| Category | Size Specified | Minimum 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 |
|---|---|---|---|---|
| | / | | | |
| | / | | | |
| | / | | | |
| | / | | | |

## Chillers (Table 4-9)

| Category & Size Specified | Condenser yes / no | Cooling Source | Minimum Performance Required | Performance Specified | Plan/Spec. Reference |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## Condensing Units 65,000 Btu/hr & Over (Table 4-10)

| Category | Minimum Performance Required | Performance Specified | Plan/Spec. Reference |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

## Heat Operated Cooling Equipment (Table 4-11)

| Heat Source | Minimum Performance Required | Performance Specified | Plan/Spec. Reference |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

## XV. SERVICE WATER HEATING: 7813.31-7813.34

### Service Water Heating Equipment (Table 4-12)

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

### Insulation: 7813.33

| Category | Size | Minimum Insulation Required* | Insulation Specified | Plan/Spec. Reference |
|---|---|---|---|---|
| Storage Tank | all | $R \geq 6$ | | |
| Piping | | | | |
| Piping | | | | |
| Piping | | | | |
| Piping | | | | |

* See Table 4-4 for pipe insulation requirements

### Service Water Heating Controls: 7813.34

| 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 | | |

## XVI. ELECTRICAL SYSTEMS: 7813.52

### Electric 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 | - | - |

## XVII. LIGHTING EQUIPMENT: 7813.53

### Lighting Controls

| 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 (Table 4-14)

| Ballast Type | Input Voltage | BEF Required | BEF Specified | Power Factor Specified | Plan/Spec. Reference |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## 3 Lamp Luminaries

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

## Fluorescent Lamps (Table 4-15)

| Lamp Type | Min. LPW Required | LPW Specified[1] | CRI Specified[2] | Plan/Spec. Reference |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

[1] May be driven by dividing rated lumen output by rated lamp watted.
[2] CRI may not be less than 67.

## Luminaires (Table4-16)

| Information is provided: | | ☐ below<br>☐ on fixture schedule, refer to _____ | | |
|---|---|---|---|---|
| Luminaire Type | Lumen Distribution | Minimum TLE Required | TLE Specified | Plan/Spec. Reference |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## XVIII. LIGHTING SYSTEMS: 7813.54

| 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<br>☐ yes ☐ no | | | |
| Facade | | | |