



Residential Basic Requirements Checklist

2002 New York State Energy Conservation Construction Code

ALL INFORMATION MUST BE FILLED IN - PRINT CLEARLY

Section 1 - Project Information			
Project Name		Permit #	
Address		Date	
Owner/Agent	Telephone	Checked By	
Documentation Author	Telephone	Date	
For Department Use Only			

Section 2 - General Information

Building Floor Area _____

Project Description New Construction Addition Alteration Unconditioned Shell

Compliance Path Used: Chapter 4 Chapter 5 Chapter 6 Chapter 11 of Residential Code of NYS
 Trade-off Worksheet Prescriptive Worksheet MECcheck Software
 Other (Please Specify) _____

Section 3 - Requirements Checklist

Bldg.
Dept.
Use

- Heating and Cooling Equipment:**
Furnace: Forced Hot Air, 78 AFUE or higher
Make and Model Number _____
- Air Conditioner:** Electric Central Air, 10 SEER or higher
Make and Model Number _____
- Boiler:** 80 AFUE or higher
Make and Model Number _____
- Air Leakage:**
Joints, penetrations, and all other such openings in the building envelope that are sources of air leakage must be sealed.
- Recessed lights must be Type IC rated and installed with no penetrations, or Type IC or non-IC rated installed inside an appropriate air-tight assembly with a 0.5" clearance from combustible materials and 3" clearance from insulation.
- Vapor Retarder:**
Required on the warm-in-winter side of all non-vented framed ceilings, walls, and floors.
- Materials Identification:**
Materials and equipment must be installed in accordance with the manufacturer's installation instructions.
- Materials and equipment must be identified so that compliance can be determined.
- Manufacturer manuals for all installed heating and cooling equipment and service water heating equipment must be provided.
- Insulation R-values and glazing U-factors must be clearly marked on the building plans or specifications.

Duct Insulation:

- Supply ducts in unconditioned attics or outside the building must be insulated to R-8 or R-11(see Table 3).
- Return ducts in unconditioned attics or outside the building must be insulated to R-4 or R-6 (see Table 3).
- Supply ducts in unconditioned spaces must be insulated to R-8 or R-11 (see Table 3).
- Return ducts in unconditioned spaces (except basements) must be insulated to R-2. Insulation is not required on ducts in basements within the thermal envelope.

Duct Construction:

- All joints, seams, and connections must be securely fastened with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric, or tapes. Duct tape is not permitted.
Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at less than 2 in. w.g. (500 Pa).
- Ducts shall be supported every 10 feet or in accordance with the manufacturer's instructions.
- Cooling ducts with exterior insulation must be covered with a vapor retarder.
- Air filters are required in the return air system.
- The HVAC system must provide a means for balancing air and water systems.

Temperature Controls:

- Each dwelling unit has at least one thermostat capable of automatically adjusting the space Temperature set point of the largest zone.

Electric Systems:

- Separate electric meters are required for each dwelling unit.

Fireplaces:

- Fireplaces must be installed with tight fitting non-combustible fireplace doors.
- Fireplaces must 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 Building Code*, as applicable.

Service Water Heating:

- Water heaters with vertical pipe risers must have a heat trap on both the inlet and outlet unless the water heater has an integral heat trap or is part of a circulating system.
- Insulate circulating hot water pipes to the levels in Table 1.

Circulating Hot Water Systems:

- Insulate circulating hot water pipes to the levels in Table 1.

Swimming Pools:

- All heated swimming pools must have an on/off heater switch and require a cover unless over 20% of the heating energy is from non-depletable sources. Pool pumps require a time clock.

Heating and Cooling Piping Insulation:

- HVAC piping conveying fluids above 105 °F or chilled fluids below 55 °F must be insulated to the levels in Table 2.

Table 1: Minimum Insulation Thickness for Circulating Hot Water Pipes.

Heated Water Temperature (F)	Insulation Thickness in Inches by Pipe Sizes			
	Non-Circulating Runouts		Circulating Mains and Runouts	
	Up to 1"	Up to 1.25"	1.5" to 2.0"	Over 2"
170-180	0.5	1.0	1.5	2.0
140-160	0.5	0.5	1.0	1.5
100-130	0.5	0.5	0.5	1.0

Table 2: Minimum Insulation Thickness for HVAC Pipes.

Piping System Types	Fluid Temp. Range (F)	Insulation Thickness in Inches by Pipe Sizes			
		2" Runouts	1" and Less	1.25" to 2"	2.5" to 4"
Heating Systems					
Low Pressure/Temperature	201-250	1.0	1.5	1.5	2.0
Low Temperature	120-200	0.5	1.0	1.0	1.5
Steam Condensate (for feed water)	Any	1.0	1.0	1.5	2.0
Cooling Systems					
Chilled Water, Refrigerant, and Brine	40-55	0.5	0.5	0.75	1.0
	Below 40	1.0	1.0	1.5	1.5

Table 3: Duct Insulation R-Value Requirements.

Annual Heating Degree Days	Ducts in Unconditioned Spaces		Ducts Outside the Building	
	3,501 - 7500	Supply/R-8	Return/R-2	Supply/R-8
Above 7500	Supply/R-11	Return/R-2	Supply/R-11	Return/R-6

NOTES TO FIELD (Building Department Use Only)
