

COMPLIANCE CERTIFICATE ASHRAE 90.1-2007 Simplified Approach Option for HVAC Systems

Section 1: Project Information

Project Title: _____

Climate Zone: _____

Section 2: Requirements Checklist

The simplified approach is an optional path for compliance when the following conditions are met:

- a. Building is two stories or fewer in height
- b. Gross floor area is less than 25,000 ft²
- c. Each HVAC system in the building complies with the requirements listed below

The HVAC system must meet ALL of the following criteria:

Yes n/a

- a. The system serves a single HVAC zone.
- b. Cooling (if any) shall be provided by a unitary packaged or split-system air conditioner that is either air-cooled or evaporatively cooled with efficiency meeting the requirements shown in Table 6.8.1A (air conditioners), Table 6.8.1B (heat pumps), or Table 6.8.1D (packaged terminal and room air conditioners and heat pumps) for the applicable equipment category.
- c. The system shall have an air economizer where indicated in Table 6.5.1, with controls as indicated in Tables 6.5.1.1.3A and 6.5.1.1.3B and with either barometric or powered relief sized to prevent overpressurization of the building. Where the cooling efficiency meets or exceeds the efficiency requirement in Table 6.3.2, no economizer is required. Outdoor air dampers for economizer use shall be provided with blade and jamb seals.
- d. Heating (if any) shall be provided by a unitary packaged or split-system heat pump that meets the applicable efficiency requirements shown in Table 6.8.1B (heat pumps) or Table 6.8.1D (packaged terminal and room air conditioners and heat pumps), a fuel-fired furnace that meets the applicable efficiency requirements shown in Table 6.8.1E (furnaces, duct furnaces, and unit heaters), an electric resistance heater, or a baseboard system connected to a boiler that meets the applicable efficiency requirements shown in Table 6.8.1F (boilers).
- e. The outdoor air quantity supplied by the system shall be less than or equal to 3000 cfm and less than 70% of the supply air quantity at minimum outdoor air design conditions unless an energy recovery ventilation system is provided in accordance with the requirements in Section 6.5.6.
- f. The system shall be controlled by a manual changeover or dual setpoint thermostat.
- g. If a heat pump equipped with auxiliary internal electric resistance heaters is installed, controls shall be provided that prevent supplemental heater operation when the heating load can be met by the heat pump alone during both steady-state operation and setback recovery. Supplemental heater operation is permitted during outdoor coil defrost cycles. Two means of meeting this requirement are (1) a digital or electronic thermostat designed for heat pump use that energizes auxiliary heat only when the heat pump has insufficient capacity to maintain setpoint or to warm up the space at a sufficient rate or (2) a multistage space thermostat and an outdoor air thermostat wired to energize auxiliary heat only on the last stage of the space thermostat and when outside air temperature is less than 40°F. Heat pumps whose minimum efficiency is regulated by NAECA and whose HSPF rating both meets the requirements shown in Table 6.8.1B and includes all usage of internal electric resistance heating are exempted from the control requirements of this part (Section 6.3.2[g]).
- h. The system controls shall not permit reheat or any other form of simultaneous heating and cooling for
- i. Systems serving spaces other than hotel/motel guest rooms, and other than those requiring continuous operation, which have both a cooling or heating capacity greater than 15,000 Btu/h and a supply fan motor power greater than 3/4 hp, shall be provided with a time clock that (1) can start and stop the system under different schedules for seven different day-types per week, (2) is capable of retaining programming and time setting during a loss of power for a period of at least ten hours, (3) includes an accessible manual override that allows temporary operation of the system for up to two hours, (4) is capable of temperature setback down to 55°F during off hours, and (5) is capable of temperature setup to 90°F during off hours.

Yes n/a

- j. Except for piping within manufacturers' units, HVAC piping shall be insulated in accordance with Table 6.8.3. Insulation exposed to weather shall be suitable for outdoor service, e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
- k. Ductwork and plenums shall be insulated in accordance with Tables 6.8.2A and 6.8.2B and shall be sealed in accordance with Table 6.4.4.2A.
- l. Construction documents shall require a ducted system to be air balanced in accordance with industry accepted procedures.
- m. Where separate heating and cooling equipment serves the same temperature zone, thermostats shall be interlocked to prevent simultaneous heating and cooling.
- n. Exhausts with a design capacity of over 300 cfm on systems that do not operate continuously shall be equipped with gravity or motorized dampers that will automatically shut when the systems are not in use.
- o. Systems with a design supply air capacity greater than 10,000 cfm shall have optimum start controls.

Section 3: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with the permit application. The proposed mechanical systems have been designed to meet the 90.1 (2007) Standard Simplified Approach requirements.

Name - Title

Signature

Date