

2009 IECC Residential Provisions

103 – CONSTRUCTION DOCUMENTS

Section 103 of the IECC requires that the levels of efficiency used to demonstrate compliance with the code be clearly identified on the plans or compliance documentation. A complete set of building plans with the efficiency requirements clearly labeled will greatly assist the inspector in performing his or her job in the field.

Information about the following types of systems should be included on the plans:

- ✦ Building envelope, e.g., wall and roof systems.
- ✦ Mechanical systems, e.g., system type, size and performance efficiency.
- ✦ Lighting system, e.g., detailed lighting schedule depicting ballast type and connected lighting power.
- ✦ Service water heating, e.g., water heater efficiency rating, pipe insulation.

Envelope-related information can be presented in a number of ways:

- ✦ *On the drawings.* Include elevations that indicate window, door and skylight areas, and sections that show insulation position and thickness.
- ✦ *On sections and in schedules.* List *R*-values of insulation on sections and include *U*-factors, SHGC, visible light transmittance and air infiltration on fenestration and opaque door schedules.
- ✦ *Through notes and callouts.* Note that all exterior joints are to be caulked, gasketed, weatherstripped or otherwise sealed. Provide air infiltration data for windows and doors.
- ✦ *Through supplementary worksheets or calculations.* Provide area-weighted calculations where required, such as for projection factors and heat capacity. You may include these calculations on the drawings, incorporate as additional columns in the schedule or submit completed code compliance worksheets provided by the jurisdiction.

Mechanical information can be presented in a number of ways:

- ✦ *On the drawings.* Provide an HVAC layout with equipment location; air distribution ductwork and sizes; air intake and exhaust locations; piping layout; fan and pump type and locations; control diagrams indicating type of HVAC control and the units that it controls.
- ✦ *In schedules.* List heating and cooling equipment capacity and efficiency; fan horsepower and airflow capacity; outside air volume; duct insulation *R*-values; pipe insulation thicknesses; and *k*-values (thermal conductivity per inch).
- ✦ *Through notes and callouts.* Note that the building owner is to be given operation and maintenance literature, and that control systems are to be tested to ensure that elements are calibrated and in good working order.
- ✦ *Through supplementary worksheets or calculations.* Provide calculations such as for heating and cooling design loads.⁷