LEED BD+C: Multifamily Midrise | v3 - LEED 2008

Distribution of space heating and cooling

EQc6 | Possible 3 points

Glossary

Intent

Provide appropriate distribution of space heating and cooling in the home to improve thermal comfort and energy performance.

Requirements

A. Forced-air systems:

Prerequisites

6.1 **Room-by-room load calculations**. Perform design calculations (using ACCA Manuals J and D, the ASHRAE Handbook of Fundamentals, or an equivalent computation procedure) and install ducts accordingly.

Credits

6.2 **Return air flow or room-by-room controls** (1 point). Ensure that every room (except baths, kitchens, closets, pantries, and laundry rooms) has adequate return air flow through the use of multiple returns, transfer grilles, or jump ducts. Meet one of the following requirements:

a. Size the opening to 1 square inch per cfm of supply (this area may include free area undercut below door).

b. Demonstrate that the pressure differential between closed rooms and adjacent spaces with return is no greater than 2.5 Pa (0.01 inch w.c.).

6.3 **Third-party performance test** (2 points). Have the total supply air flow rates in each room tested using a flow hood with doors closed or one of the other acceptable methods cited by the ACCA Quality Installation Specifications. Supply air flow rates must be within +/– 15% (or +/– 10 cfm) of calculated values from ACCA Manual J (as required by EA 6.1).

B. Nonducted HVAC systems (e.g., radiative systems):

Prerequisites

6.1 **Room-by-room load calculations**. Perform design calculations (using ACCA Manual J and D, the ASHRAE Handbook of Fundamentals, or an equivalent computation procedure) and install system accordingly.

Credits

6.2 **Room-by-room controls** (1 point). Design the HVAC system with flow control valves on every radiator.

6.3 **Multiple zones** (2 points). Install nonducted HVAC system with at least two distinct zones with independent thermostat controls.