



| v3 - LEED 2008

Heating and cooling distribution system

EAC5 | Possible 3 points

Glossary

Intent

Minimize energy consumption due to thermal bridges and/or leaks in the heating and cooling distribution system.

Requirements

A. Forced-air systems

Prerequisites

5.1 Reduced distribution losses. Meet the following requirements:

1. Limit duct air leakage rate to outside the conditioned envelope. The tested duct leakage rate must be ≤ 4.0 cfm at 25 Pascals per 100 square feet of conditioned floor area (for each installed system), verified by the qualified energy rater. Testing is waived if the home meets EA 5.3 (b) or (c).
2. Do not install ducts in exterior walls unless extra insulation is added to maintain the overall UA for an exterior wall without ducts. Ducts may be run inside interior wall cavities but must be fully ducted (i.e., do not use the wall cavity as the duct).
3. Use at least R-6 insulation around ducts in unconditioned spaces.

Credits

5.2 Greatly reduced distribution losses (2 points). Limit duct air leakage to outside the conditioned envelope. The tested duct leakage rate must be ≤ 3.0 cfm at 25 Pascals per 100 square feet of conditioned floor area (for each installed system), verified by the qualified energy rater.

OR

5.3 Minimal distribution losses (3 points). Meet one of the following requirements:

- a. Limit duct air leakage to outside the conditioned envelope. The tested duct leakage rate must be ≤ 1.0 cfm at 25 Pascals per 100 square feet of conditioned floor area, verified by the qualified energy rater.
- b. Locate the air-handler unit and all ductwork within the conditioned envelope and minimize envelope leakage (i.e., meet the requirements of EA 3.3).
- c. Locate the air-handler unit and all ductwork visibly within conditioned spaces (i.e., no ductwork hidden in walls, chases, floors, or ceilings).

B. Nonducted HVAC systems (e.g., hydronic systems)

Prerequisites

5.1 Reduced distribution losses. Use at least R-3 insulation around distribution pipes in unconditioned spaces.

Credits

5.2 Greatly reduced distribution losses (2 points). Keep the system (including boiler and distribution pipes) entirely within the conditioned envelope.

5.3 Minimal distribution losses (1 point). Install outdoor reset control (i.e., controls that modulate distribution water temperature based on outdoor air temperature).