

# CDR BULLETIN

## 2009 Washington State Energy Code Update

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By Bill Christenson



### *About the Author*

Bill Christenson is a Case Manager for CDR covering residential and commercial construction — analyzing building systems and specializing in concrete issues.

### *Contact CDR*

206-232-9075  
3047 78th Avenue SE  
Suite 204  
Mercer Island, WA 98040

The 2009 Washington State Energy Code revisions become effective July 1, 2010 and include several substantive changes from the prior Code. New residential construction will now require field testing of the HVAC duct system for air leakage as well as a separate test for overall building air leakage. The Code requires the building air leakage test to be performed using a Blower Door device which consists of a large fan, a frame and panel device installed in an exterior doorway, and a manometer (pressure gauge). Both tests are performed to ensure that the house and ductwork are properly sealed at all joints and penetrations to reduce heat loss via air leakage. Common locations for excessive air loss include sill plates at wall framing, penetrations in top and bottom plates at both exterior and interior walls, rim joists at floor framing, window and door penetrations, and plumbing/electrical penetrations through gypsum board at exterior walls and ceilings.

Currently the average air leakage of ductwork tested in new homes is approximately 300 CFM which equates to three heat vents from the furnace blowing directly to the exterior. Older homes likely have much higher levels of

air leakage and heat loss. Air leakage can account for 25% or more of a home's heat loss.

In addition to duct testing for new home construction, the Code also requires duct sealing and testing when an existing space conditioning system is altered, such as replacing a worn-out furnace or adding a heat pump or air conditioner. This will likely entail removal and replacement of ductwork insulation at joint connections in the crawl space and/or attic areas to allow proper sealing of the joints. Note that duct tape is not an approved means for sealing the ductwork. The Code does include provisions for ductwork in existing houses acknowledging that they do not have to meet the same criteria as in new homes. Still, they must be sealed and tested when a change to the system is made.

The new 2009 Washington State Energy Code should be available on-line by April 15, 2010 and can be reviewed in its entirety at <http://sbcc.wa.gov> or <http://www.energy.wsu.edu/code>.

