

MECHANICAL CODE DISCUSSION

Residential Duct Sealing and Testing —2012 IECC



BRENT URSEBACH

SALT LAKE COUNTY PLANNING AND DEVELOPMENT

bursenbach@slco.org

385-468-6694

THE 2012 INTERNATIONAL CODE Council body of codes were adopted on July 1, 2013, with an exception for the International Energy Conservation Code (IECC). Through a last minute action on the floor of the Utah State Legislature, a conditional date was placed on the IECC (energy code) adoption. The reason for this condition was a significant number of state amendments placed in the residential sections of the IECC, which resulted in eliminating any currently available version of REScheck as a viable method of showing energy code compliance. As you may recall, REScheck is a free DOE software package that may be used to perform calculations and to certify a residential building complies with the IECC. The conditional language added to the legislation (House Bill 202), required a new version of REScheck, produced by DOE, which can be used to verify compliance with the unique requirements of the Utah amended IECC. A new Utah REScheck was recently released, reviewed and is in the verification and submission process to the Legislature. It appears that the adoption date will take place as early as February 1, 2014.

IMPORTANT: HVAC contractors involved in residential construction must be aware of duct sealing and testing requirements in this new amended IECC.

Utah Amended IECC R403.2.2 (IRC 1103.2.2):

Duct tightness shall be verified by one of the following:

1. Post-construction test: *Total leakage shall be less than or equal to 10 cfm (283 L/min) per 100 square feet (9.29 m²) of conditioned floor space when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.*

2. Rough-in test: *Total leakage shall be less than or equal to 10 cfm (283 L/min) per 100 square feet (9.29 m²) of conditioned floor area when tested at a pressure differential of at least 0.1 inches w.g. (25 Pa)*

across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 7.5 cfm (212 L/min) per 100 square feet (9.29 m²) of conditioned floor area.

Exception: *The total leakage test is not required for systems with all air handlers and at least 50% of all ducts (measured by length) located entirely*

within the building thermal envelope.

Summarizing and commenting on the requirements in this code section:

1. The state amendments increased the allowable leakage rates and provided the 50% exception. The 2012 IECC, without amendments requires testing if any duct is located outside the building thermal envelope.
2. By amendment, if more than 50% of the duct system, measured by length is outside the home's thermal envelope, it will need to be tested, using a 'duct blaster.'
3. If the air handler is outside the thermal envelope, the duct must be tested, even if the duct is virtually all inside the thermal envelope.
4. If a test is required, it must be a total test of all ducts, inside and outside the thermal envelope.
5. A third party or the installing contractor may perform the test.
6. The code official (inspector) may require his or her presence on site to observe the testing. If it fails, additional sealing and re-testing is required.
7. Testing prior to drywall is strongly encouraged, allowing additional sealing efforts if necessary.
8. This code requirement encourages locating ducts and air handlers (including furnaces) to inside the home.

(story continues top of page 5) →



Mechanical Code, cont.

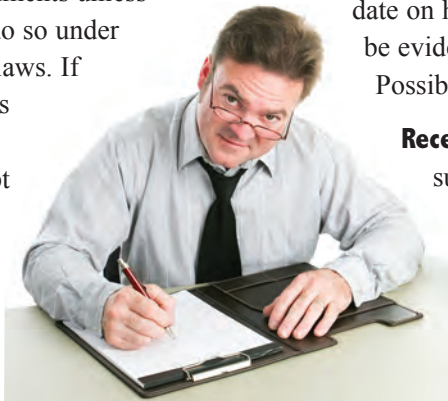
Testing has been required for water, drainage and fuel gas piping systems for many years. With the rising cost of energy and concerns for the environment, testing of building envelopes and duct systems has become increasingly common. As with piping systems, testing is the only method that accurately determines leakage rates. If you are not familiar with the technology, YouTube has numerous videos found by searching for “duct blaster.” Watch for IECC training opportunities throughout 2014. ■

Remember, your comments and questions are welcome! —Brent

Keep Applications and Résumés Clean and Free of Notes

DURING THE HIRING PROCESS, never note applicants’ race, sex, religion, age or national-origin information on their applications or any other pre-offer documents unless you’re required to do so under affirmative actions laws. If you are required, it’s best to use a “tear off” sheet that’s kept separate from applicant files.

Even better: Advise hiring managers to refrain from writing anything on applications or résumés. Since you must retain those documents, making notations of any kind—including “secret codes” or private rating systems that identify or categorize recruits—could create a



dangerous paper trail that may be tough to explain later.

Example: Suppose you circled an applicant’s 1971 college graduation date on his résumé. Could that be evidence of age bias? Possibly.

Recent case: After a farming supply company gave applicants written tests, it noted the applicants’ race and sex on the test. The well-meaning goal: assess whether the

test had a negative impact on minority hiring.

A group of applicants sued for hiring bias. The company argued that it merely “observed” the race and sex. The court didn’t buy it. While the



EMPLOYMENT LAW

company didn’t formally request the data, it still required the information for employment. As a result, the court let the applicant group pursue a class-action suit. (*Modtland v. Mills Fleet Farm, No. Civ. 04-3051, D. MN.*) ■