

MAG Building Code Committee

Proposed MAG Standard

2012 & 2015 IECC Air Tightness Standard

January 20, 2016

2012 & 2015 IECC

Modify Section R402.4.1.2 Testing.

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour for detached dwelling units and 7 air changes per hour for attached dwelling units in Climate Zones 1 and 2, and 3 air changes per hour for detached dwelling units and 5 air changes per hour for attached dwelling units in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

Justification:

The IECC has required envelope leakage testing (blower door testing) for single and multifamily buildings since the 2012 version. The minimum allowable leakage in Climate Zone 2 (Maricopa County) is 5 air changes per hour (5 ACH50) for the IECC 2012 and 2015. Testing envelope leakage in multifamily buildings with attached units is challenging because of leakage between units at shared walls and ceilings/floors. This anomaly has been recognized and addressed in codes in Nevada and Ontario Canada as well as the Canadian ENERGY STAR for Homes program. In each instance, maximum air change rates are higher for attached dwelling units than detached dwelling units. It is recommended for Climate Zones 1 and 2 that the air change rate for attached dwelling units be set at the rate stipulated in the IECC 2009, i.e. 7 air changes per hour, and a rate of 5 air changes per hour for Climate Zones 3 and higher (5 being the coldest in Arizona), which is slightly higher than the air change rate for attached dwelling units in the colder Climate Zones (6 and higher) in Canada.