

- Chapter 7 of Residential ACM, Home Energy Rating Systems (HERS) Required Field Verification And Diagnostic Testing, has detailed procedures on who can perform third-party inspections, the type of inspections that can be performed, and procedures for sampling.
- Appendix ACM RC-2005 has procedures for testing air distribution ducts.
- Appendix ACM RD-2005 has procedures for verifying refrigerant charge.
- Appendix ACM RE-2005 has procedures for testing fan flow and fan power.
- Appendix ACM RF-2005 has procedures for HVAC sizing.
- Appendix ACM RH-2005 has procedures for high quality insulation installation.
- Appendix ACM RI-2005 has procedures for verifying air conditioning features such as thermal expansion valves and high EER ratings.

Example 2-8

Question

How does the sampling procedure for diagnostic testing for air distribution ducts apply to multifamily buildings?

Answer

If the builder chooses to do sampling, then the sampling is done on a dwelling unit basis. Under sampling, first a determination needs to be made of how many different types of dwelling units there are in the development.

For multi-family buildings, variations in exterior surface areas caused by location of dwelling units within the building do not cause dwelling units to be considered a different model. In this dwelling unit, the duct system associated with every HVAC unit in this dwelling unit must be tested. After that a sample of the remaining dwelling units must be tested, according to the procedure in Section 7.5 of the *2005 Residential ACM Manual*. In a dwelling unit that is to be tested in sampling, the duct system associated with every HVAC unit in that dwelling unit must be tested. No duct systems have to be tested in dwelling units that are not selected for sampling. In other words this is a sampling of dwelling units within buildings. Testing must be done on every duct system in a dwelling unit regardless of whether it appears that the HVAC and duct system are in conditioned space or not. This is akin to a single family residence with one HVAC unit serving upstairs with ducts in the attic and another serving downstairs with ducts between floors. For this single family counterpart case, both duct systems must be tested to get the duct sealing compliance credit.