



# New Home Construction

## Oregon Department of Energy

### GENERAL INFORMATION

Customer Name:	Test Date:
Contractor:	Technician:

### TEST RESULTS

Duct test fan: Make: \_\_\_\_\_ Model: \_\_\_\_\_  
 Test Fan Location: \_\_\_\_\_ Pressure Tap Location: \_\_\_\_\_

#### 1. Maximum Allowable Duct Leakage:

Floor area served by system (\_\_\_\_\_ sq. ft.) X 0.06 = \_\_\_\_\_ CFM<sub>50</sub>

#### 2. Test Performed: Total Duct Leakage Leakage to Outside

Pressurize ducts to 50 Pa with reference to Outside. Duct pressure = \_\_\_\_\_ Pa  
 Fan pressure \_\_\_\_\_ Pa Ring: none, 1, 2, 3 \_\_\_\_\_ ring Total leakage \_\_\_\_\_ CFM<sub>50</sub>

**Check one:**

Tested leakage is less than 75 CFM<sub>50</sub>  
 Tested leakage is less than maximum Allowable leakage entered on line 1

#### 3. System design:

Continuously ducted:  Yes  No Mechanically attached:  Yes  No Return in each zone:  Yes  No  
 Method used for calculating heating/cooling loads: \_\_\_\_\_  
 Standard used for designing duct system: \_\_\_\_\_

#### 4. Air Handler Effect (Mandatory Test)

For systems to qualify, the air handler must cause no more than a -3 Pa net depressurization in any zone.  
 Baseline all exhaust devices and air handler **OFF**. House with reference to the outside \_\_\_\_\_ Pa

2. With Air Handler **ON**:

Zone Description	Zone with reference to the outside	
	Int. Doors Open	Int. Doors Closed
Zone 1	Pa	Pa
Zone 2	Pa	Pa
Zone 3	Pa	Pa

Each zone containing a combustion appliance must be tested. If there are no combustion appliances present, the major zone of the house must be tested. If the air handling equipment is located in a tightly constructed, attached garage or other such unconditioned space, that zone must be tested.

# Total Duct Leakage Test

## Oregon Department of Energy Test Protocol

Tools: Duct leakage tester, digital-manometer or manahelic gauge (1 Pa resolution)

### 1. Definitions:

**Pa. (Pascals)**. Standard unit of air pressure measurement. Approximately 1/250" water gauge.

**WRT. (With Reference To)**. When measuring pressure differences on zone will be the reference zone. The pressure measured in the other zone will be WRT the reference zone. For example when the house is -50 Pa WRT Outside, the house pressure is 50 PA. lower than Outside.

### 2. House preparation

- A. Interior doors open.
- B. Exhaust devices off, including: clothes dryer, bath and kitchen fans, central vacuum cleaner.
- C. Air handler off, and set to not operate during test.
- D. Seal all registers and grills.
- E. Remove furnace air filter and any pre-filters.
- F. Close off any outside air ducted to return if possible.
- G. Open a window or exterior door to equalize pressure between house and Outside.

### 3. Equipment set-up

- A. Attach Duct Tester to air handler cabinet or closest large return register.
- B. Place end of hose measuring duct pressure in supply plenum (or closest supply duct at least 3' from duct tester attachment). Avoid placing the end of the hose facing the airflow.
- C. Set up Duct Tester gauge(s) to measure Ducts WRT Outside (same as house) and Duct Tester Fan WRT Outside (same as house).
- D. Run Duct Tester to check air tightness of duct tester attachment and register/grill seals.

### 4. Test

- A. Set duct tester to 50 Pa. Ducts WRT House/Outside
- B. Measure Duct Tester Fan WRT House/Outside:
- C. Note: If Fan WRT House pressure is not below -25 Pa., retest with next smaller ring.
- D. Record Duct Tester configuration (ring: none, 1, 2, 3).
- E. Determine duct tester fan flow from chart or manometer.