



## Airflow

From the Indiana Wx Field Guide 5-2 & 5-3

### Standard – Airflow

Controlling airflow for Weatherization requires establishing a strategy that reduces infiltration, **yet ensures safe, healthful and efficient operation of the building** and the systems within the building.

### Procedure – Airflow

- Establish a site specific minimum ventilation rate (**MVR**) and express in CFM 50
- Determine pre-weatherization airflow rates using Blower Door and express in CFM 50
- If structure is **below the MVR**, determine if adding mechanical ventilation is appropriate
- If structure is **below the MVR**, air sealing should only be completed where bulk moisture could be delivered to the attic.
- Perform site specific diagnostics
- Perform Blower Door assisted, cost – effective air sealing. Do not airseal below the established MVR. Concentrate efforts on major air leakage such as attic leakage sites, duct systems, interstitial connections, and obvious large holes.
- Determine post – weatherization airflow rates
- Conduct post inspection and detailed health and safety tests including DSTO
- Perform client education as needed

### Standard – Site Specific Airflow

A site specific airflow stand shall be established for every unit slated to receive weatherization. This standard is the minimum ventilation rate (MVR) as measured by blower door testing. It is determined by selecting on of the following three methods, whichever provides the **highest airflow rate**:

### Procedure – Determine MVR

- 1200 CFM@50 Pa is the **baseline MVR**.
- A whole building air change per hour (ACH) rate not less than **.35 ACH** (.4 ACH if the building volume is used for combustion air) converted to CFM 50
- An occupancy rate of not less than **15 CFM per person** converted to CFM 50. Occupancy is generally considered to be “number of bedrooms plus one”. Use actual number of persons if higher than “number of bedrooms plus one”

Converting from CFM 50 to CFM Natural depends on several factors including climate, building height and wind shielding. Climate factors differ somewhat across Indiana. The following is an average for Indiana in determining natural infiltration rates:

### CFM 50 ÷ N = CFM Natural

One Story House: N = 23      CFM 50 ÷ 23 = CFM Natural  
Two Story House: N = 18.5      CFM 50 ÷ 18.5 = CFM Natural  
Three Story House: N = 16      CFM 50 ÷ 18.5 = CFM Natural

### Site Specific Airflow Standards

*(Use the larger of the 3 below as your Airflow Standard / MVR)*

1. Baseline MVR Standard      = 1200 **CFM 50**
2. .35 ACH (or .4 ACH)  
Building Volume Airflow Standard      = House Volume \_\_\_\_\_ (cu. ft.) x .35(or .4) = \_\_\_\_\_ cu. ft. per hour  
\_\_\_\_\_ cu. ft. per hour ÷ 60 = \_\_\_\_\_ CFM Natural  
\_\_\_\_\_ CFM Natural x \_\_\_\_\_ N = \_\_\_\_\_ **CFM 50**
3. 15 CFM per person  
Occupant Airflow Standard      = “Bedrooms + 1 or “Actual # of persons = Occupancy  
\_\_\_\_\_ Occupancy x 15 CFM per person \_\_\_\_\_ CFM Natural  
\_\_\_\_\_ CFM Natural x \_\_\_\_\_ N = \_\_\_\_\_ **CFM 50**