**ASHRAE 62.2 – 2010 Residential Ventilation Standard**

**Auditor/Inspector Check List**

*All boxes must be checked or marked N/A.*

* The dwelling unit is a single family or multifamily residential building of three stories or less above grade, including manufactured and modular housing.
* The planned ventilation strategy includes (check applicable circle):
	+ A mechanical exhaust system.
	+ A mechanical supply system.
	+ A combination; a balanced system with supply and exhaust air (e.g. HRV or ERV).
* All bathrooms have fans rated at 50 CFM on-demand *or* 20 CFM continuous.[[1]](#footnote-1)
* The kitchen has a fan rated at 100 CFM on-demand *or* 5 ACH based on kitchen volume. If the kitchen fan delivers less than 5 ACH, it is a vented range hood.[[2]](#footnote-2)1
* All whole building fans are rated 1 sone or less.[[3]](#footnote-3)
* All local occupant-controlled fans are rated at three sones or less. All clothes dryers are vented to the exterior.
* Adjoining garage(s) are sufficiently air sealed from the living space to prevent migration of contaminants.
* The whole building fan providing IAQ ventilation air operates automatically without requiring occupant intervention.
* *If* the fan providing the IAQ ventilation air is set to cycle on and off, the entire on/off cycle is completed within four hours.
* The delivered ventilation rate meets the following formula:

**Fan CFM =**
[0.01A + (7.5 \* # occupants)] + (alternative compliance ventilation deficit) – (Infiltration credit)

Where:

* + Fan CFM = measured CFM delivered by designated whole building ventilation fan.
	+ A = area of the conditioned space in square feet.
	+ # occupants = number of bedrooms + 1.

**Alternative Compliance Deficit Calculation**

In each room where a local ventilation fan is required and a fan either doesn’t exist or doesn’t deliver the required CFM, determine the deficit relative to the required rate. For example, how much less than 50 CFM in each full bathroom? How much less than 100 CFM in each kitchen? For each room with a deficit, reduce the room’s deficit by 20 CFM if that room has an openable window (deficit not to drop below zero). Sum all deficits and divide the total by 4. Add the result to the continuous whole-building ventilation requirement.

**Calculation of the Infiltration Credit**

The infiltration credit that can be used to reduce the required installed fan flow requires a series of calculations. These calculations can be reduced to a few inputs using certain assumptions. This section provides this reduced equation for infiltration and shows how to use this to determine the credit for infiltration.

1. The infiltration rate at operating conditions, measured in CFM, can be estimated as

ICFM = 0.0508 \* w \* S \* Q50

In this equation:

* + *S* is a factor accounting for the height of the building, determined from Table X-1.
	+ *Q50* is the blower door test result in CFM50 (cubic feet per minute at 50 Pa).
	+ *w* is the weather factor from ASHRAE Standard 136.

Table X-1. S factors for various building heights

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number of Stories** | 1 | 1.5 | 2 | 2.5 | 3 |
| **S** | 1 | 1.13 | 1.23 | 1.32 | 1.39 |

1. The default infiltration rate *Id*from ASHRAE Standard 62.2, measured in CFM, is

Id = 0.02 \* Afloor

1. If *ICFM*  is greater than *Id*, then the infiltration credit *Icred*can be calculated as

*Icred* = ½ (*ICFM – Id*)

The final infiltration credit equation becomes:

Infiltration credit = 0.5 \* [(0.0508 \* w \* S \* CFM50) – 0.02A]

Where:

* + w = Weather Factor from the ASHRAE 136 table *Values of Weather Factor W for Canadian and U.S. locations.* Note: Choose the closest location.

S = the height multiplier from Table X-1.

* + A = Area of the conditioned space in square feet
1. If not, use the alternative compliance deficit calculation. [↑](#footnote-ref-1)
2. [↑](#footnote-ref-2)
3. When using the alternative compliance path, this sound requirement is waived for existing fans that will be used toward the whole-house rate. [↑](#footnote-ref-3)