Ventilation Worksheet

Building Name: _____ File Number: _____

Address: _____

Completed by (name):_____ Date: _____

This worksheet is designed for use with the **Zone/Room Record.** Appendix A provides guidance on methods of estimating the amount of ventilation (outdoor) air being introduced by a particular air handling unit. Appendix B discusses the ventilation recommendations of ASHRAE Standard 62-1989, which was developed for the purpose of preventing indoor air quality problems. Formulas are given below for calculating outdoor air quantities using thermal or CO_2 information.

The equation for calculating outdoor air quantities **using thermal measurements** is:

$$\text{Outdoor air (in percent)} = \frac{T_{\text{return air}} - T_{\text{mixed air}}}{T_{\text{return air}} - T_{\text{outdoor air}}} \times 100$$

Where: T = temperature in degrees Fahrenheit

The equation for calculating outdoor quantities **using carbon dioxide measurements** is:

$$\text{Outdoor air (in percent)} = \frac{C_s - C_r}{C_0 - C_r} \times 100$$

Where: C_s= ppm of carbon dioxide in the supply air (if measured in a room), or
C_s= ppm of carbon dioxide in the mixed air (if measured at an air handler)
C_r= ppm of carbon dioxide in the return air
C_o= ppm of carbon dioxide in the outdoor air

Using the table below to estimate the ventilation rate in any room or zone. Note: ASHRAE 62-1989 generally states ventilation (outdoor air) requirements on an occupancy basis; for a few types of spaces, however, requirements are given on a floor area basis. Therefore, this table provides a process of calculating ventilation (outdoor air) on either an occupancy or floor area basis.

Zone/Room	Percent of Outdoor Air	Total Air Supplied to Zone/Room (cfm)	Peak Occupancy (number of people) or Floor Area (square feet)	$D = \frac{B}{C}$ Total Air Supplied Per Person (or per square foot area)	$E = (A \times 100) \times D$ Outdoor Air Supplied Per Person (or per square foot area)
	A	**B**	**C**	**D**	**E**