

Section 6 in ASHRAE 62.1, determines the minimum ventilation rates required for various applications using ventilation rate procedure (VRP). The ventilation rate procedure determines the outdoor rate intake based on space type/application, occupancy level and floor area.

Minimum rates are based on contaminant sources and source strengths that are typical for the listed space types. Occupancy density for each space shall be determined based on its activity and shall be in accordance with Dubai Municipality's requirements. If the occupancy density values are not mentioned then, default occupancy density values stated in the latest edition of ASHRAE Standards 62, shall be considered.

Calculations

The outdoor air flow required to be supplied to each zone by supply air distribution shall be no less than the value determined in accordance with the equation:

$$V_{oz} = \frac{(R_p \times P_z + R_a \times A_z)}{E_z}$$

where,

V_{oz} = zone outdoor airflow

A_z = zone floor area: the net occupiable floor area of the ventilation zone (m²)

P_z = zone population: the number of people in the ventilation zone during typical usage

R_p = outdoor airflow rate required per person as determined from Table 6.1 of ASHRAE 62.1

R_a = outdoor airflow rate required per unit area as determined from Table 6.1 of ASHRAE 62.1

E_z = zone air distribution effectiveness as determined from Table 6.2 of ASHRAE 62.1

For dwelling unit in residential occupancies in which the occupants are non-transient shall follow ASHRAE 62.2, Section 4 to determine the ventilation rate in order to meet the regulation.

In addition to all above requirements for the fresh air ventilation, the project should also meet exhaust air ventilation requirements as per ASHRAE 62.1 or ASHRAE 62.2 standards.

For parking ventilation, the project should meet *Regulation 401.10* also in addition to meeting the minimum exhaust ventilation requirement as per this regulation.