

Executive Summary

This report is intended to analyze the ventilation of the University Ridge student housing complex at East Stroudsburg University using the ASHRAE's Standard 62.1 Ventilation for Acceptable Indoor Air Quality. University Ridge is a 10 building complex of 160,000 ft² with four person apartments which are naturally ventilated with operable windows according to the required percentage of free area. Along with apartments, the complex also contains a commons area which includes lounges, a game room, conference room, offices and meeting room.

Each of these previously described spaces are conditioned by split system DX duct furnace air handling units which are supplied by hot water from an adjacent water heater and each has an individual condensing unit. Each air handling unit supplies around 2,500 CFM of re-circulated air and a cooling capacity of 2.5 to 3.5 tons.

Due to the spaces being naturally ventilated, the amount of overall complaints due to sick buildings has been shown to be statistically lower.¹ However, naturally ventilated systems must be used with caution due to certain conditions that affect performance, such as climatic, wind or atmospheric conditions.

After analysis of the occupied spaces, it was found that only one unit, DF-1, did not meet Standard 62.1 on mechanical ventilation alone. All spaces which require natural ventilation meet or exceed the standard.

The following report is prepared assuming that the windows are inoperable and require the proper amount of ventilation as stated in Section 6 of Standard 62.1 and that ventilation efficiency is 100%.