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The Palestra Building
London, England

ASHRAE Standard 62-2001 Ventilation Report

I. Executive Summary

The purpose of this report is to use ASHRAE Standard 62-2001 regarding building ventilation requirements to verify the size and proportions of outdoor air provided to the Palestra Building are appropriate. The Palestra Building was designed to meet all British Codes set forth in the Building Regulations 2000 issued by the Office of the Deputy Prime Minister. Therefore in addition to meeting the minimum ASHRAE standards, this report also investigates the differences between Standard 62-2001 from ASHRAE and Approved Document F from the British Standards.

The Palestra Building is currently the largest speculative office building under construction in London, England at over 37,000m^2. Located across the street from the Southwark tube station, and just minutes from the Tate Modern museum as well as Waterloo Station, Palestra was destined to be a high-profile building. The location only enhances the 'quirky' design of the architect, Will Alsop from Alsop Architects.

Because this iconic building is located in such close proximity to the high traffic flow of the Underground as well as the neighboring structures, it was virtually impossible to achieve the necessary levels of high quality outdoor air to meet the natural ventilation requirements. Therefore, the Palestra Building is one of the few offices in London that is vented through a fully mechanical system.

Maximum versatility of the building's spaces was one of the primary design objectives in order to increase revenue and the rent ability of the space. Thus over 31,000 m^2 is open place office space. With the rest of the area accounted for by water closets, corridors, and reception areas. This versatility was designed into all the building's systems, including the ventilation scheme to the office areas. In order to ensure the satisfaction of all future tenants and possible office space layouts, a minimum number of fan coil units have been placed on a grid system allowing for additional units to be strategically placed maximizing personalized comfort. The system's capacity was also sized to allow for this future growth as well as changes in the building's population density.

The system consists of seven Air Handling Units ranging from 1026 L/s (2173.97 cfm) to 18857 L/s (39955.72 cfm). Overall, it was concluded that the while the British Standards had a high population density suggested per unit area, and a higher minimum fresh air supply per occupant, these 'rules of thumbs' are proportional to those listed in Table 6-2 of ASHRAE Std 62-2001. Therefore, the air handling units included in this study comply the ventilation standards set forth in ASHRAE Standard 62-2001 and Approved Document F.

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