

GRAFTON QUARTER

PROJECT: Grafton Quarter, Croydon

CLIENT: Magnus Build Ltd

SCOPE OF PROJECT: Supply and install smok and environmental ventilation systems to three apartment blocks and eight floors

PRODUCTS: ES-SHEV Mechanical and Environmental Pods, Sertus Smoke Control Panels, Smoke Vent Louvres, Head of Stair Em Vents



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Dual function Mechanical ventilation system delivers for residential development

THE CHALLENGE

Grafton Quarter in Croydon, an ambitious £25M project to regenerate a declining 2-acre industrial site, involved many design considerations to ensure the smooth transition of the site into an outstanding mixed-use scheme. The resulting development, featuring an innovative creative hub with circa 20,000 sq ft of artist studios and 97 residential units, is an impressive addition to this upcoming area. Working very closely with key stakeholders on the project assured we delivered a standout solution.

THE CONSULTANCY

An initial design report conducted by a Fire Engineer, recommended a mechanical ventilation system for each of the 8-storey residential blocks. The smoke ventilation system would need to provide adjustable flow rates to run in escape mode and firefighting mode. The control system was linked to the central fire alarm via interfaces and Fireman Priority Switches within the stairway on each level. It was also identified during the planning phase that the central boiler systems were constructed to run through the mechanical risers, and therefore it was necessary to additionally facilitate temperature control for these areas.

THE RESULT

We designed a fully integrated system, utilising CFD analysis, certified to BS EN 12101-3, working with Building Regulations Approved Document B and industry guidance BS9991. One mechanical ventilation unit was installed per building incorporating controls over various floor vents and electrical invertors within the control system to adjust extract flow rates. These invertors vary the fan speed – allowing the system to be run at various levels of output in the event of fire. Additional comfort fans, designed to run continuously at lower speed to be energy efficient, were installed, as well as additional dampers - providing comfort ventilation for 6 out of the 8 floors in each unit. The adaptive controls allow the comfort functionality to be shut down in the event of fire. The completed installation was fully commissioned and delivered in line with building sign-off targets and to the complete satisfaction of the customer.

THE BENEFITS

- Mechanical ventilation shaft system featuring integrated smoke vent louvres
- Additional comfort ventilation functionality
- Adaptive controls to manage fan speeds and flow rates
- Assured compliance to Building Regulations Approved Document B, BS 9991 for ventilation of areas in apartment buildings.

