

HSE VERIFICATION OF BESPOKE LEV MACHINERY AIR QUALITY TESTING

Sector	Asset Management
Client	A large international retail chain
Service	Air quality testing HSE verification of bespoke LEV machinery
Project Days	3

CLIENT PROBLEM ?

The client had installed bespoke LEV (Local Exhaust Ventilation) machinery in their newly constructed warehouse and manufacturing facility.

Health and safety law states that the employer must assess the risks to their workers from hazardous substances – dusts, fumes, vapours, etc. - and decide what measures to take to protect their health.

The client therefore engaged Corporate OHS to undertake HSE verification and air quality testing, to give them assurance that their bespoke designed LEV systems were both safe for staff to use and the exposure adequately controlled, in addition to confirmation that their systems were compliant with health and safety law.

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Our Solution

If designed and installed correctly, LEV's should carry away harmful dust, mist, fumes or gas in the air. A testing protocol was designed by the HSE Consultant to ensure that the systems were operating effectively, efficiently and in compliance with the current legislation on LEV systems.

The performance of the system was verified using a combination of visual and physical checks. Performance checks were verified against design. Tests included:

- Static pressure at selected locations throughout the system
- Duct dimensions, installation of test points in duct
- Installed as per manufacturer approved design
- Ensure no modification has been made by user
- Testing the extraction efficiency on different intervals
- Extraction hood placement in cabinet
- Air quality testing to ensure quality of the system in accordance with legislation

Summary of Outputs

Using an variety of testing equipment including an anemometer and manometer to check the LEV air velocity and static pressure the air, results regarding the air quality were given in a report containing the following table:

- Number of hoods
- Process controlled
- Duct diameter
- Air density
- Static pressure
- Duct velocity
- Duct volume

These results were used to decide as to whether the system was meeting the required standards to adequately control contaminants efficiently.