



## Safelab Scope of Works – Routine Testing of LEV

The routine testing of a LEV system such as an extraction arm, canopy/hood, Purex Cube enables you to comply with the requirements of COSHH Regulation Nine which stipulates that this type of equipment should be tested at least once every fourteen months by a competent person.

### **Routine testing as described by (with exceptions):**

- COSHH REG 9 Control of substances hazardous to health
- HSG 258 Controlling airborne contaminants

Safelab's routine testing includes:

### **A review by the engineer of (where available):**

- System commissioning report
- User manual
- Logbook
- Previous statutory report / service card
- Confirm no changes to unit, system or process since last test

### **The engineer will check and advise on possible containment interference factors such as:**

- AHU
- Doors and windows
- Busy thoroughfares
- Equipment in unit
- Operator / process

### **The engineer will perform a visible inspection and check the operation of equipment including the following (where applicable)**

- Internal and external condition
- Glazing and panels: Seating, sealing and damage inspection
- Fan control
- Control panel operation / display
- Reset service counter
- Low airflow alarm
- Pressure gauge
- Light

### **The engineer will perform qualitative and quantitative airflow assessments**

- Airflow measurements see notes below\*

Please note that the routine testing quoted by Safelab excludes a visual process capture check through the use of smoke tubes (see notes below\*\*) unless the results of the airflow measurements (as above) give reason for the engineer to perform this additional check – in this scenario there is no additional charge for the smoke test.

(If you require smoke testing to be performed as part of the thorough test and examination please advise Safelab so that this quotation can be revised accordingly as additional charges will apply).

### **The engineer will check the operation and condition of the external fan (providing safe, working access is available to the engineer) see notes below \*\*\***

- Location
- Seating
- Rust / damage / condition/fan direction
- Housing integrity

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## The single source for the complete clean air solution

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**The engineer will check the condition of ductwork** (providing safe, working access is available to the engineer) see notes below \*\*\*

- Fixings (secure) – visual checks
- Joints (intact) – visual checks
- Location
- Damper operation (where applicable check and record damper settings)

**Where the LEV is fitted with filters the engineer will perform a filter seating & integrity challenge comprising (where relevant):**

- Carbon filter challenge see notes below\*\*\*\*
- HEPA filter challenge (if present) see notes below\*\*\*\*\*

A full written report, for each piece of equipment tested, will be produced by the engineer which records the results of the tests and checks performed. A copy will be e-mailed to the e-mail address provided by the point of contact or a copy of the report can be requested from Safelab by e-mailing: [service@safelab.co.uk](mailto:service@safelab.co.uk)  
The equipment's service record card will be updated following the thorough test and examination.

Client to provide the engineer with the original commissioning report (if possible, or a previous test report) for the equipment. Client to advise the engineer of any change in process (from the original intended process at time of installation/commissioning). In terms of capture performance – we only offer to check this by measuring airflows (possible smoke capture) and comparing current measurements with previous measurements.

#### **Testing protocol details:**

##### **\* Airflow testing**

Using a calibrated vane anemometer a number (depending on unit type and size) of airflow readings are measured. These measurements are recorded and averaged to provide a quantitative performance result. The required results vary depending on the type of unit and the application.

##### **\*\* Smoke capture test**

Smoke capture tests provide qualitative support to the quantitative face velocity tests. Where the operational environment allows a small controlled source of smoke is introduced to the LEV. The smoke capture is visually observed and where applicable a capture distance is measured. The capture distance is relevant on capturing and receiving hoods as well as arms. Due to the enclosed design of a fume cupboard capture distance is not required. In this case the smoke test offers visual confirmation of satisfactory containment and air movement around the face.

##### **\*\*\* External fan & ductwork inspection**

Ductwork and fan units are located in a variety of ways and where possible Safelab will carry out a full visual inspection of both. This will only be done providing safe access and a safe method of working is available to the engineer. Where it is unsafe to access the whole system all reasonable efforts will be made to assess ductwork and fan systems visually in a safe manner.

##### **\*\*\*\* Filter seating & integrity challenge (carbon filter):**

A calibrated monitor fitted with a Figaro sensor is placed in the exhaust airflow of the unit. An IPA based spray is introduced to the cabinet intake airflow whilst the unit is running. The monitor will alert the engineer to any level of the substance reaching the sensor. This sensor is similar to the one used as part of the built-in saturation alarm safety feature on many Safelab units. Activated carbon filters come in many forms and handle a great number of chemicals. Our testing protocol gives a general indication to the condition of the filter as well as confirmation that it is seated and sealed satisfactorily (particularly important after filter replacement). We take into account the usage of the cupboard as well as the processes conducted within to offer the right advice regarding replacement and suitability of the filters. More specific ongoing testing can be carried by end users utilising Draeger or Gastec systems at regular intervals between Safelab's routine examination and test visits. These systems allow for the specific testing of a chosen substance.

**\*\*\*\*\* Filter seating & integrity challenge (HEPA filter):**

The purpose of HEPA filters is to remove at least 99.97% of airborne particles 0.3 microns ( $\mu\text{m}$ ) in diameter. HEPA filters are used in various applications for the protection of end users and product. It is important to note that HEPA filters are designed to arrest very fine particles effectively, but they do not filter out gasses and odour molecules. For this the use of an activated carbon filter instead of or in addition to a HEPA filter is recommended. (See BS EN 12469:2000 for DOP filter and seal integrity)

A DOP (Dispersed Oil Particulate) test is conducted to detect leaks in HEPA (high efficiency particulate air) filters in their operational conditions. The test is designed to test the filter, seals and housing. In addition to testing the filter integrity it ensures that all air entering the controlled environment passes through the HEPA filtration system. In this test a generator is used to create an aerosol which is dispersed upstream of the filter. The downstream face and seals of the filter are scanned for leaks using a calibrated photometer. It is important to note that smoke detectors in the location will need to be isolated prior to the work commencing. **Please note: Safelab does not undertake particle counting.**

**Terms and Conditions**

The purchaser is deemed to accept Safelabs' standard terms and conditions which are readily accessible on our website ([www.safelab.co.uk/standard\\_terms\\_conditions.htm](http://www.safelab.co.uk/standard_terms_conditions.htm))

**Excluded from Quote (unless otherwise stated)**

- Smoke testing
- Duct pressure monitoring
- Consumable items such as internal lights
- Cleaning or de-contamination
- PAT Testing
- Access equipment
- Any additional items or works not specified
- Any remedial works identified at time of test will be quoted for separately