

Fume Cupboard Performance and Maintenance

Scope of Circular

This circular aims to set out the standards for fume cupboard performance and the maintenance requirements of fume cupboards. It should be read in conjunction with the Estate Office Procedure for Annual Fume Cupboard COSHH Maintenance Checks.

Fume Cupboard Performance

BS 7258 covers Fume Cupboard Design and Specification. The British Standard does not give fixed performance criteria for certain types of work undertaken in a fume cupboard. Nor does the British Standard dictate how performance is measured. In practice, performance is generally based upon face velocity. The following standards of performance in terms of face velocity are considered to represent good practice and are supported by research literature:

Face Velocity (average)	Use of fume cupboard
Minimum 0.7m/s	Radioactive Work
Minimum 0.5m/s	Standard work with hazardous substances
Minimum 0.2m/s	Storage only

Fume Cupboard Maintenance

The Control of Substances Hazardous to Health Regulations 1999 require that local exhaust ventilation systems are maintained in efficient working order and in good repair through examination and testing. Fume cupboards fall within this requirement. Formally, the regulations require that systems must be examined and tested every 14 months. In practice, this is an annual check, instigated by the Estate Office, see procedure attached. Suitable records of the examination/testing and any repairs must be kept for at least five years.

In general it is not a formal requirement that performance checks are made by a School in between the annual checks undertaken by the contractor. For new fume cupboards where there is automatic detection of low flow and other problems, this can be relied upon to highlight deterioration in performance.

For older fume cupboards that do not give any indication of low flow or other problems, it is recommended that periodic checks of performance are made and recorded. If fume cupboard performance is suspect, the Safety Office can provide an anemometer for carrying out face velocity measurements and any problem should then be referred to the Estate Office.

Responsibilities for Fume Cupboard Maintenance

a) Estate Office

The Estate Office has overall responsibility for maintaining the fume cupboards belonging to the University. It is responsible for organising the annual checks in line with the COSHH Regulations and for instigating remedial action where a fume cupboard is found to be performing below par (either identified by the contractor carrying out the annual checks or by the School/Department at any other time.)

b) Schools/Departments

The School/Department is responsible for ensuring that fume cupboards are used appropriately, that members are trained in their safe use and that problems with fume cupboard performance are promptly reported to the Estate Office. Fume cupboards found to be below the standard appropriate for the type of use are to be taken out of use pending repair.

The School/Department is also responsible for identifying the category of work that each fume cupboard is used for, i.e. radioactive work, standard work or storage only.

Dr J A Sutherland

University Safety Officer

ESTATE OFFICE

Procedures for Annual Fume Cupboard COSHH Maintenance checks

1. Estate Office to arrange with School / Department suitable date for tests (normally once every 12 months)
2. Estate Office to forward a schedule of fume cupboards to be maintained to the Contractor along with required maintenance dates. The schedule to contain design extract rates for each Fume Cupboard along with previous recorded extract rate and the rating agreed with the Department / School. Contractor to respond with written method statement for work.
3. Department / School to ensure fume cupboards are safe for Contractors to work on. The Departmental / School procedure for this should be followed and will include:
 - Clearing of all equipment, chemicals, any radioactive materials and ensuring all internal surfaces are cleaned.
4. Contractor to contact Estate Office/ Helpdesk upon arrival on site.
5. Contractor to report to School / Departmental Contact upon arrival and sign **in** and **out** of School/Department on a **daily basis**. The Contact person or office is to be identified on the order or covering letter.
6. Contractor to agree final sequence of work with School / Department Contact providing item 3 is achieved.
7. All persons to wear suitable personal protective clothing when working on fume cupboard internal chamber or any part of the extract or water wash system. Reference Contractors Safe working method statement. The Contractor must be aware of the suitability of the equipment commensurate with the risk. Any Contractor not complying with the above will be asked to cease work and leave site.
8. The School / Department Contact shall make the Contractor aware of fume discharge from adjacent fume cupboard extracts when working at roof level and discuss the potential risk, shutting down relevant fume cupboards as required. The Contractor will require a risk assessment to go onto the roof and in certain areas a permit.(To be issued by the School / Department)
9. Contractors to carry out COSHH maintenance checks as detailed on the sample maintenance checklist.
10. If any fume cupboard poses a safety risk to the users and therefore requires immediate attention, i.e. low extract volume, the Contractor shall inform the Departmental / School contact and the Estate office as soon as possible. (see item 11). The Contractor shall have already checked the following possible causes of low volume:
 - Extract fan rotation.
 - Replaced drive belts and re- checked tension.
 - Checked condition of extract impeller for fouling or damage.
 - Checked for blockage/ obstruction in fume cupboard baffle etc.
 - Checked position/ fouling of fume cupboard extract volume control damper.Minimum Extract velocity at 500mm sash opening 0.5m/s (Standard Cupboard)
Minimum Extract velocity at 500mm sash opening 0.7m/s (Radioactive Cupboard)
(Or any other value agreed with the Safety Office and School / Department to suit the local conditions of use.

11. After consultation with the School / Department and the Estate Office any fume cupboard not meeting the minimum extract volumes shall be taken out of service and the Contractor shall affix a label (clearly visible) to the glass sash as follows;
'DO NOT USE - OUT OF SERVICE '
COSHH maintenance checklist to be re-issued following any repair works.
12. All fume cupboards that have been checked shall display the Contractors service label and shall include the extract velocity (m/sec) and date.
13. Test results to be left with the School / Departmental Contact on the day of the test.
14. Contractor to forward test results on to the Estate Office electronically via e-mail. (e.g. Word Document). The Estate Office shall check the velocity readings are within limits and agree and implement, if possible, any remedial works to return the fume cupboard to service.
15. The Estate Office shall carry out a periodic review (every 3 months) to check the procedures are being applied and followed.

Mr P Cooper / Mr M Oakes

Estate Office