

**The British Occupational Hygiene Society
Faculty of Occupational Hygiene**

PROFICIENCY MODULE SYLLABUS

**P404: AIR SAMPLING OF ASBESTOS AND MMMF AND REQUIREMENTS FOR A
CERTIFICATE OF REOCCUPATION FOLLOWING CLEARANCE OF ASBESTOS**

AIM: To provide theoretical and practical knowledge in the techniques of air sampling and clearance testing and the provisions for certification for reoccupation.

CONTENT:

TOPIC	TIME ALLOCATION
1. REGULATIONS	10%
2. METHOD STATEMENT/PLAN OF WORK	15%
3. AIR SAMPLING FOR ASBESTOS	15%
4. ENCLOSURE AND CLEARANCE AIR MONITORING	20%
5. PRACTICAL WORK	40%

Note: Reference is made in this syllabus to HSE guidance or other documentation. This may not be the most up-to-date relevant publications from HSE/other sources and is intended as guidance for candidates only.

1. REGULATIONS (10%)

Outline the full range of health effects of asbestos ranging from the benign (pleural plaques) to the terminal (mesothelioma) in the light of results from epidemiological studies carried out on asbestos workers. Review influential publications. Cover dose-response relationships, the effects of smoking whilst working with asbestos and the risks to health from low level exposure.

Outline the relevant HSE regulations for asbestos removal and for the licensing with reference to the Control of Asbestos Regulations 2006, outlining the duties of the asbestos removal contractor, employer, owner and the laboratory. Refer to good practise for asbestos removal as laid out in the approved code of practice supporting these regulations. Refer to other relevant HSE guidance. Review control limits and the clearance indicator and certificate of reoccupation for asbestos together with the philosophy behind setting them (1) (2) (3).

2. METHOD OF STATEMENT/PLAN OF WORK (15%)

Discuss the importance of the role of the method statement/plan of work and the use of control measures to reduce airborne asbestos emissions and to limit the spread of debris. Look in detail at the design, construction, testing and maintenance of enclosures and negative air management systems. Discuss the role and use of personal protective equipment, transit and hygiene facilities. Cover the importance of cleaning the area and the safe removal and disposal of debris (1) (2) (4). Describe the 1st stage of reoccupation and its certification and the requirements of the method statement. This includes work areas, enclosures, hygiene facilities, transit routes and waste disposal.

3. AIR SAMPLING FOR ASBESTOS (15%)

3.1 Types of air sampling

Detail the types of air sampling that can be carried out. Examine the sampling requirements and their relevance for identification of sources of contamination, assessment of personal exposure and the checking of efficiency and effectiveness of control measures (2).

3.2 Air Sampling equipment and procedures

Discuss the requirements of the WHO method in HSG 248 in relation to sampling of airborne asbestos and MDHS 59 in relation to MMMF. Demonstrate the equipment required and the adjustment, measurement and calibration of flow. Discuss the requirements for recording calibration and site sampling information to ISO 17025 standards (2) (5).

3.3 Clearance Sampling

Discuss when and how visual inspection and clearance sampling are carried out, what must be looked for and the types and frequency of dust disturbance which must take place leading to clearance. (2).

Educational Objectives

The student must have a detailed knowledge of the approved methods for sampling of airborne asbestos and MMMF.

4. ENCLOSURE AND CLEARANCE AIR MONITORING (20%)

The course must contain all the elements of the four stage clearance procedure with the exception of sample mounting and counting which are covered in Proficiency module P403.

4.1 Safety aspects

Discuss Face Fit Testing, the selection and use of PPE and RPE, its place in the control hierarchy and the likely protection it affords. Discuss transit and decontamination procedures that may need to be followed and medical records that may need to be kept together with other risk assessments that may be necessary. (4).

4.2 Enclosure Evaluation

Enclosure Inspection – to detect any deficiencies including smoke testing, leak testing, enclosure design etc. The evaluation of the enclosure must include the decontamination unit and any other equipment normally involved.

4.3 Thorough Visual Inspections (Stage 2)

Illustrate clearance inspections of enclosures and decontamination units and give advice as to where asbestos may be found after contractors have completed stripping operations. Examine HSE Guidance Notes HSG 248 and HSG 247 in relation to clearance sampling and the meaning of thoroughly visually clean and how this is assessed (2).

4.4 The clearance indicator threshold and the Role of the Clearance Sampling (Stage 3).

Discuss its significance and application to measurements (2).

Discuss the requirements imposed by ISO17025 (6) accreditation and the role of HSE and UKAS in ensuring that certification is carried out with integrity. Discuss the areas of potential conflict of interest and what to do if undue pressure or threats are made.

4.5 Assessment of the Site for Reoccupation (Stage 4)

Discuss areas for inspection outside the enclosure and the overall removal of ACMs in compliance with the method statement.

4.6 Certificates of re-occupation

Who must issue and who must receive the certificate of re-occupation and what it must contain.
The status of any conditions specified (4).

Educational Objectives

The student must be able to describe the methods used to inspect and test an enclosure used for asbestos clearance.

5. PRACTICAL WORK (40%)

Practical work must be carried out to provide the student with all practical knowledge in carrying out the following:

Air sampling

- air sampling equipment, flow measurement and calibration.
- personal/static sampling.
- numbers and location of samplers

Clearance testing

- enclosure integrity and testing
- visual inspections
- requirements of Stage 1 and 4 and the provision of certificates

Role plays

- How to deal with awkward and pressured situations

COURSE LENGTH

It is envisaged this course would be run over 2 days with 1 day for the course theory, ½ day for the course practical and a further ½ day for the examination/assessment.

REFERENCES

- (1) HSC ACOP (L143) Work with asbestos containing materials.
- (2) HSE Guidance HSG248 Asbestos: The Analyst's guide for sampling, analysis and clearance procedures.
- (3) HSE Guidance HSG247 Asbestos: The Licensed Contractor's Guide.
- (4) HSE Guidance Note HSG 189/2 (1999) Working with Asbestos Cement.
- (5) HSE Guidance Note HSG 53 (1998). The Selection, Use and Maintenance of Respiratory Protective Equipment.
- (6) HSE Guidance MDHS 59 (1988) Man Made Mineral Fibre by Phase Contrast Light Microscopy.
- (7) ISO 17025 (2000) General Requirements for the Competence of Testing and Calibration Laboratories.

COURSE EXAMINATION/ASSESSMENT

The students would be assessed as follows:

- A 45 minute MCQ BOHS examination (30 questions).
- A practical assessment carried out by an approved practical assessor as follows.

PRACTICAL ASSESSMENT - AIR SAMPLING AND CLEARANCE TESTING

Assessment must include:

- enclosure inspection - prior to work and to detect deficiencies, smoke testing, leak testing and enclosure design.
- enclosure - visual clearance, post remediation.
- use of PPE/RPE
- set up of air sampling equipment
- Confirm the candidate's full knowledge of all of the elements of the four stage clearance procedure, except for sample evaluation which is covered by P403.
- Confirm the candidate's ability to do all relevant calculations. Relating to the number of samples to be taken for clearance and the air volume for each sample etc.

Full details of the practical assessment requirements are provided as a separate document GD.2 P404 Practical Requirements

Successful completion of the above will lead to a :

'PROFICIENCY CERTIFICATE'

in AIR SAMPLING OF ASBESTOS AND MMMF AND REQUIREMENTS FOR A CERTIFICATE OF REOCCUPATION FOLLOWING CLERANCE OF ASBESTOS