

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

PROFICIENCY MODULE SYLLABUS

P406: Supervision and Management of the Safe Removal and Disposal of Asbestos

Introduction Chapter 4 of “Asbestos : The Licensed Contractor’s Guide” specifies the training required for supervisors and those managing the removal of or working with asbestos. This course aims to provide the training needs for supervisory licence holders as specified in that document.

Prior Knowledge Candidates for this course are expected to be aware of the contents of HSG 247 (Asbestos: The Licensed Contractors Guide) and also HSG 248 (Asbestos: The Analysts Guide) in particular Section 7 ‘Supervisory work carried out by analysts’. Candidates will also be expected to have prior experience of undertaking asbestos removal works including site set up and personal decontamination.

Aim To provide the practical knowledge and skills required by a supervisory licence holder.

Content	Topic	Time Allocation
	1 Asbestos Types and Health Effects	10%
	2 Legislation	10%
	3 Removal of Asbestos	30%
	4 PPE, RPE and Decontamination Procedures	10%
	5 Accident and Emergency Procedures	10%
	6 Practical	30%

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 Asbestos Types and Health Effects (10%)

1.1 Asbestos Forms and Uses

Describe the six regulated forms of asbestos in relation to the serpentine and amphibole groups of minerals. Discuss their characteristic properties, such as flexibility, tensile strength, combustibility, thermal conductivity and resistance to chemical attack. Describe the effects of thermal and other forms degradation on asbestos minerals.

Explain the physical and chemical properties of asbestos which have determined the use to which it has been put by industry. Discuss the three types of asbestos which have found significant commercial use (amosite, chrysotile and crocidolite) and the types of materials they were added to. Describe the use and occurrence of the other types of asbestos particularly as possible contaminants in other minerals.

Discuss the wide range of the use of Asbestos products across the full range of applications in both the industrial and domestic situations. Consider also the peripheral effects of asbestos product usage. [e.g overspray etc.]

1.2 Health Effects of Asbestos

Describe the full range of health effects 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.

1.3 *Control Limits etc for Asbestos*

Review control limits and the clearance indicator threshold for asbestos together with the philosophy behind setting them.

Educational Objectives The student should be able to describe the health effects of asbestos.

2. **Legislation (10%)**

2.1 *Health and Safety at Work Etc Act 1974*

Discuss the basic concepts of this enabling legislation with particular reference to employers responsibilities for asbestos.

2.2 *Asbestos Regulations*

Review all the relevant current Regulations on asbestos:

- Control of Asbestos Regulations 2006 especially the duty to Manage Asbestos in Non-Domestic Premises
- Management of Health and Safety at Work Regulations (1999)
- Hazardous Waste Regulations 2005
- Construction (Design and Management) Regulations 2007
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
- Maintenance and testing of enclosures and the need for control other than RPE.

Consider the management of asbestos removal projects, particular attention being paid to legal duties imposed by the Health and Safety at Work Act, the Control of Asbestos Regulations (CAR) and the various Codes of Practice which apply (1) ((5) (6) (7) (8).

2.3 *Approved Codes of Practice*

Discuss the provisions of the Approved Codes of Practice for the CAR and the status of the ACOP (1) (2).

Educational Objectives The student must have a clear understanding of the legislation relating to asbestos.

3. **Removal of Asbestos (30%)**

3.1 *Preparation and Planning*

Discuss the steps required in a job specification, preparation of a plan of work by the contractor, tender evaluation and the various roles required under the CDM Regulations for management of the site. Discuss the detailed planning of methods of work and their control strategy. Other health and safety aspects including working at heights, COSHH, heat stress and emergency procedures must be included (1). In addition the integration of the removal project with existing site safety systems should be included (permit to work etc).

3.2 *Enclosures*

With reference to HSE Guidance Notes (7) and Approved Codes of Practice (2), describe with practical examples the following:

- Site set up including pre-cleaning and air testing
- Correct principles of an enclosure for asbestos removal
- Methods of enclosure examination both pre-and post-removal, relevant documentation
- Correct procedures for entry, exit and decontamination
- The use of negative pressure monitors
- The use of secondary enclosures.

3.3 *Removal procedures*

Describe the various control measures available for a removal of asbestos to ensure that asbestos dust levels are kept as low as is reasonably practicable inside the enclosure (1) (9). Consider a wide range of applications and also point out the dangers of common short cuts that might be considered.

Describe the requirements for transit routes.

3.4 *The Certificate of Reoccupation and the testing of enclosures*

Discuss all of the requirements for the issue of the Certificate of Reoccupation for an asbestos enclosure and the decontamination unit (1) (9) (10).

Educational Objectives The student must have a clear understanding of all the elements required for safe asbestos removal projects.

4. **PPE, RPE and Decontamination Procedures (10%)**

Discuss the selection and use of PPE, 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 (3) (4) (7).

Discuss selection of PPE/RPE for all elements of the working environment including removal work, transit routes and waste handling. Explore the reasoning behind colour segregation for individual processes.

Educational Objectives The student must have a clear understanding of the use and limitation of all forms of PPE and RPE and how decontamination procedures must be operated.

5. **Accidents and Emergency Procedures (10%)**

Discuss the procedures required to cover all foreseeable emergencies whilst the removal processes are being undertaken including enclosure and/or ventilation failure.

Special emphasis should be placed on the requirements to check and ensure equipment is properly maintained along with proper record keeping.

Discuss the techniques for snagging and spotting potential problems, inspection and auditing, keeping full records.

Discuss how risk assessments need to be carried on all processes and procedures.

6. **Practical Work (30%)**

6.1 *Decontamination Units*

The design, connection and siting of a decontamination unit; explanation of primary and full decontamination procedures and use of RPE and PPE; The practical session must include practising use of decontamination and transit procedures in a hygiene unit that is plumbed in and fully operational and mock airlock/enclosure.

6.2 *RPE*

How to ensure the RPE is suitable for the user; how to fit RPE on site including face fit testing; how to check faulty RPE and what to do if a fault is found; the components of each type of RPE; certification and documentation; suitable storage; requirements of daily and monthly inspections.

6.3 Enclosures

Detailed inspections of an enclosure on a pre erected 50mm x 50mm timber framework using 1000 gauge polythene sheeting, adhesive tape and staples; inspection of a three-stage air lock system on a pre erected 50mm x 50mm timber framework using 1000 gauge polythene sheeting and adhesive tape; inspection of a three stage air lock system using metal and/or plastic framework; inspection of a proprietary air lock system e.g. a "transtent"; the use and location of viewing panels; the use and location of warning signs; smoke testing to determine integrity; the construction and location of baglocks. Inspections must be carried out under conditions of both before and after asbestos removal.

6.4 Dust Suppression

The connection and use of an injection kit in order to wet pipe insulation including the demonstration and use of a needle system – they should be able to determine that needles are the only effective way to wet insulation as a result of this session; shadow or trace vacuuming - practice the removal of a tile or duct panel using this technique.

References

- (1) HSE ACOP (L143) 2006 Work with Materials containing Asbestos
- (2) HSE ACOP (L127) 2006 Management of Asbestos in Non-Domestic Premises
- (3) HSE Guidance HSG 264 Asbestos: The survey guide
- (4) Asbestos and Man Made Mineral Fibres in Buildings, Practical Guidance. Thomas Telford DETR (1999)
- (5) HSE Guidance INDG 223 (2001) Managing Asbestos in Workplace Premises
- (6) HSE ACOP and Guidance HSG 224 (2001) Managing Health and Safety in Construction Construction (Design and Management) Regulations 2007
- (7) HSG 247 (2006) Asbestos The Licensed contractor's Guide
- (8) HSE Guidance Note HSG 213 (2001) Introduction to Asbestos Essentials
- (9) ISO 17025 (2005) General Requirements for the Competence of Testing and Calibration Laboratories
- (10) HSE Guidance HSG248 Asbestos The Analysts' Guide for sampling analysis and clearance procedures

Course Length

It is envisaged that this course will be conducted over 3 days with a further 1 day for the examination and assessment.

This course will require 24 hours of study time (teaching and practical), some of which may need to be undertaken in the candidates own time.

Tutor to candidate ratios

A report by the Health and Safety Laboratory recognised that there was a need for a high tutor to delegate ratio for practical hands on training, such as use of decontamination procedures. As a result, the following maximum ratios have been agreed for initial courses:

- Theory based sessions for all courses - 1 tutor - 12 delegates
- Practical sessions - 1 tutor - 6 delegates.

Course Examination/Assessment

The students would be assessed as follows:

- A 90 minute BOHS examination consisting of 40 short answer questions
- A practical assessment carried out by an approved Practical Assessor as follows:

Practical Assessment

Assessments must include candidates demonstrating their ability to carry out:

- an initial enclosure inspection and identification of deficiencies
- a final enclosure inspection as if it was part of a four stage clearance procedure
- an inspection on a decontamination unit
- a full personal decontamination procedure
- understanding of a “plan of work” including the relevant supporting documentation
- understanding of techniques of dust suppression and all safety issues including requirements of PPE/RPE.