

## **ENVIRONMENTAL PROTECTION DEPARTMENT**

### **REQUIREMENTS FOR REGISTRATION AS ASBESTOS CONSULTANT**

A registered asbestos consultant must have:

- (a) obtained a qualification listed in Part A;
- (b)
  - (i) completed a recognized course of training listed at Appendix, with syllabus listed in Part B; or
  - (ii)
    - (1) completed training in asbestos-related areas such as air and bulk sampling and identification; asbestos investigation and management; asbestos abatement project design; hazard evaluation and asbestos control option, etc.; and
    - (2) had sufficient recognized working experience in asbestos abatement and management to be determined on individual merit; and
- (c) satisfied the Asbestos Administration Committee that he is competent to perform the duties and functions required of a registered asbestos consultant, as listed in Part C.

#### **Part A**

##### **Qualifications**

A registered asbestos consultant must have obtained one of the following qualifications:

1. Not less than 12 months accumulative recognized working experience in asbestos abatement and management after obtaining either:
  - (a) a recognized bachelor degree in engineering, architecture (including bachelor of arts in architectural studies), building, building surveying or science (including chemistry, physics, applied science, material science, occupational hygiene); or
  - (b) a recognized qualification, such as:
    - i) a postgraduate diploma, master or doctor degree in science, engineering, architecture, building or building surveying; or
    - ii) associateship in engineering, science or applied science, building or building surveying awarded by Hong Kong Polytechnic; or
    - iii) any other qualification to be determined to be equivalent to a bachelor degree on its individual merits; or
2. An authorized person within the meaning of the Buildings Ordinance (Cap.123); or

3. A public officer certified in writing by his head of department as having a qualification and experience which is equally acceptable as an authorized person; or
4. A qualified professional as defined in the Air Pollution Control (Asbestos) (Administration) Regulation.

## **Part B**

### **Training Course**

A recognized course of training for registered asbestos consultant shall have the following syllabus:

**1. Nature and use of asbestos**

types of asbestos, amphibole and serpentine asbestos; properties of asbestos fibres; historical use of asbestos; usage of asbestos in building fabrics, industry, manufacturing, home appliances, etc.

**2. Health effects related to asbestos exposure**

nature of asbestos-related diseases; routes of exposure; dose-response relationships and lack of safe exposure level; synergism between cigarette smoking and asbestos exposure; latency period for asbestos diseases.

**3. Asbestos survey**

overall sampling strategy, random tables for samples collection, identification of functional and homogeneous areas, pre-inspection and sampling planning; review of building as-built drawings and records; supervise and implement asbestos investigation and sampling plan.

**4. Evaluation and interpretation of survey results**

comparison of field data with laboratory results to draw statistically sound inference; estimation of quantity of asbestos containing materials.

**5. Assessment of hazards of asbestos containing materials**

type; quantity; friability; physical condition, percentage damage; relationship of accessibility, vibration source, air plenums, position in relation to the path of natural and artificial ventilation, population at risk, activities in the immediate vicinity potential for damage, air monitoring.

**6. Evaluation and selection of control options**

overall view of encapsulation, enclosure, interim operation and maintenance, removal and deferred action; advantages and disadvantages of each control option including associated liabilities, staging and prioritizing of work in both vacant and occupied

buildings; the need for containment barrier and decontamination in different response actions.

**7. Development of Asbestos Management Plan and Asbestos Abatement Plan**

purposes of the plans; actions to be taken by custodial staff; labelling asbestos containing materials; method of informing people who may be affected by the presence of asbestos; surveillance scheme; recordkeeping scheme; method by which the disturbance of asbestos containing materials can be avoided; actions to be taken in case the condition of asbestos containing materials is found to be deteriorating; employee protection programme and staff training; design of abatement programme; design of methods, measures and steps for checking the performance of asbestos control measures; air monitoring strategy; work acceptance procedures; emergency measures.

**8. Codes of practice in asbestos control work**

construction and maintenance of containment barrier and decontamination enclosure system; proper working techniques for minimizing fibre release; entry and exit procedures for the work area; use of wet method; use and maintenance of HEPA appliances and negative pressure monitor; proper clean-up and disposal of asbestos; work practices for encapsulation, enclosure, and repair; use of glovebag and mini-containment for minor work.

**9. Asbestos worker protection**

classes and characteristics of respirator types; proper selection, inspection, donning, use, maintenance, and storage procedures; methods for field testing of facepiece-to-face seal (positive and negative pressure fitting tests); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors; factors that alter respirator fit; selection and use of personal protective clothing; use, handling and storage of non-disposable clothing; regulations governing personal protective equipment.

**10. Other safety hazards**

hazards encountered during asbestos abatement activities and how to deal with them - including working at height; slips; trips and falls; heat stress; electrical hazards; working in confined space; air contaminants other than asbestos; fire and explosion hazards.

**11. Fibre aerodynamics and control**

aerodynamic characteristics of asbestos fibres; importance of proper containment barriers; settling time for different types of asbestos fibres; wet methods in asbestos abatement; aggressive air sampling following abatement; aggressive air movement and negative pressure exhaust ventilation as an effective air clean-up method.

**12. Occupied buildings**

special design procedures required for occupied buildings; education of occupants; extra monitoring recommendations; staging of work to minimize occupant exposure and disruption to normal building usage; scheduling of renovation to minimize exposure.

**13. Use of other professionals**

use of engineers, architects and surveyors to prepare high quality job specifications; use of industrial hygienists and laboratory personnel to monitor the progress and results of abatement actions.

**14. Recordkeeping**

use of field personnel's data sheet along with laboratory results; on-going recordkeeping as a means to track asbestos disturbance; procedures for record keeping.

**15. Replacement materials**

replacement of asbestos with non-asbestos substitutes; physical properties of substitutes and their potential health hazards.

**16. Asbestos air and bulk sampling and analysis**

principles of optical microscopy for asbestos identification and fibre counting, phase contrast microscopy, polarized light microscopy; methods of bulk and air sampling; limitations of optical microscopy; principles of electronic microscopy, transmission electronic microscope, scanning electronic microscope; method of determining asbestos containing material (1 % asbestos by weight); different types of air monitoring tests (leakage, work area, penultimate, final clearance, reassurance).

**17. Local legislations and codes of practice on asbestos control**

Air Pollution Control Ordinance; Air Pollution Control (Asbestos) (Administration) Regulation; Waste Disposal Ordinance; Codes of Practice; Factories and Industrial Undertakings (Asbestos) Special Regulations.

The course shall be taught in not less than 4 days, or 30 hours, and completed with a practical or workshop session in field for asbestos survey and preparation of asbestos investigation report and asbestos management plan, and a course end examination.

## **Part C**

### **Professional Competency**

A registered asbestos consultant should have demonstrated to the satisfaction of the Asbestos Administration Committee that he is competent to perform the following duties and functions:

#### **Asbestos Investigation**

1. plan for an asbestos survey and liaise with relevant parties before, during and after the survey;
2. devise overall sampling strategy for identification of all in-situ asbestos containing materials;
3. identify asbestos containing materials in an asbestos survey;
4. supervise the implementation of a sampling plan;
5. interpret laboratory test results;
6. assess the hazard posed by the identified asbestos containing materials;
7. prepare an asbestos investigation report for submission to the Authority;

#### **Asbestos Management**

8. evaluate and select the best control options for the identified asbestos containing materials, based on technical, health hazard, timing and cost implications;
9. design detailed and site specific procedures, control measures and methods to abate or remove identified asbestos containing materials;
10. develop overall asbestos operation and maintenance programme for asbestos containing materials not requiring removal;
11. develop methods and plans to label all identified asbestos containing materials;
12. develop plans to monitor the conduct of asbestos abatement work, which shall include inspection schedule, air monitoring strategy and interpretation, emergency procedures, etc.;
13. prepare asbestos management plan and asbestos abatement plan for submission to Authority;
14. advise on asbestos-free substitute materials, and their potential health hazards;

#### **Supervision of Asbestos Works**

15. supervise the carrying out of an asbestos management plan, asbestos abatement plan, or the conduct of asbestos abatement work;
16. assume the personal responsibility to notify the Authority of any modification of the content of an asbestos management plan or an asbestos abatement plan before implementing the modification;
17. assume the personal responsibility to notify the Authority of any contravention of a requirement under the Air Pollution Control Ordinance or in respect of a step, measure, requirement and condition in an asbestos management plan or an asbestos abatement plan;
18. solve any emergency problems arising in the course of any asbestos works;
19. conduct work acceptance test upon completion of an asbestos removal work, including visual inspection, supervision of air clearance test and interpretation of clearance air test result.

**List of Recognised Course of Training for  
Registered Asbestos Consultant**

1. Training Course for Registration as Asbestos Consultants Under the Air Pollution Control (Amendment) Ordinance; organized by the former Hong Kong Polytechnic.
2. Certificate in Asbestos Management; organized by the Occupational Safety and Health Council.
3. Any two of the following courses, which are approved by the Environmental Protection Agency of the United States of America as satisfying the Asbestos Hazard Emergency Response Act (AHERA) accreditation requirements for:
  - (a) Asbestos Building Inspectors, and
  - (b) Asbestos Abatement Project Designers or
  - (c) Asbestos Management Planners.

(revised 1 November 1996)

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