

## **1-B. Asbestos Exposure Assessment and Control in Occupational Settings**

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### **b) Work practices for preventing asbestos exposure**

Work practices are ways of structuring things that must be done, or ways in which something is done. Several agencies have issued work practices for preventing asbestos exposure but only a few documents dealing with safe work practice for asbestos in general industries are available.

In 1984, the International Labor Office (ILO) issued an ILO code of practice, which provides recommendations and safe work practices for asbestos. The practices detailed in this document are appropriate actions to be taken by Asian developing countries for preventing asbestos exposure. In addition, the regulations and guidelines of the US, the UK and Canada on asbestos are reviewed in this document. The detailed recommendations and requirements of the regulations and guidelines reviewed in this document should be read in the context of local conditions, the scale of operation involved and the technical possibilities of Asian countries.

### **References**

#### **● Safe work practice of ILO**

1. International Labour Office. Safety in the use of asbestos: An ILO code of practice. International Labour Office. Geneva. 1984. Available from:  
[http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---safework/documents/normativeinstrument/wcms\\_107843.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/normativeinstrument/wcms_107843.pdf)

- **Regulations and guidelines of OSHA and EPA, US.**

2. Occupational Safety and Health Administration. 29 CFR 1910.1001 Asbestos. Available from: [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9995](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9995)
3. Occupational Safety and Health Administration. 29 CFR 1926.1101 Asbestos. Available from: [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10862](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10862)
4. Occupational Safety and Health Administration. 29 CFR 1915.1001 Asbestos. Available from: [http://www.osha.gov/pls/oshaweb/owasrch.search\\_form?p\\_doc\\_type=STANDARDS&p\\_toc\\_level=1&p\\_keyvalue=1915](http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1915)
5. Environmental Protection Agency. Guidance for controlling asbestos-containing materials in buildings. EPA 560/5-85-024. 1985.
6. Environmental Protection Agency. How to manage asbestos in school buildings: The AHERA designated person's self-study guide. EPA 910-B-96-001. 1996. Available from: <http://www.epa.gov/region2/ahera/e23.pdf>

- **Guidelines of HSE, UK.**

7. Health and Safety Executive. Asbestos essentials. Available from: <http://www.hse.gov.uk/asbestos/essentials>
8. Health and Safety Executive. A comprehensive guide to managing asbestos in premises. Health and Safety Executive. 2002. Available from: <http://www.hse.gov.uk/pubns/books/hsg227.htm>

- **Guidelines of WorkSafe BC, Canada**

9. WorkSafe BC. Safe work practices for handling asbestos. 1996. Available from: [http://www.worksafebc.com/publications/health\\_and\\_safety/by\\_topic/assets/pdf/asbestos.pdf](http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/asbestos.pdf)
10. WorkSafe BC. Safe work practices for asbestos laboratories. 2008. Available from: [http://www.worksafebc.com/publications/health\\_and\\_safety/by\\_topic/assets/pdf/asbestos\\_labs.pdf](http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/asbestos_labs.pdf)

1. International Labor Office (ILO). Safety in the use of asbestos: An ILO code of practice. ILO. Geneva. 1984.

**Background:** The practical recommendations of this code of practice are intended for the use of all those, in both the public and private sectors, who have responsibility for safety in the use of asbestos. The code has been drawn up with the objective of providing guidance to those who may be engaged in the framing of provisions of this kind and, in particular, governmental or other public authorities, committees or management in related enterprises.

**Objective:** The ILO code of practice on safety in the use of asbestos incorporates recommendations regarding the following topics: the general duties, exposure limits, workplace monitoring, general preventive methods, personal protection, cleaning of premises, transport and storage, disposal of asbestos waste, supervision of the health of workers, information, labeling, education and training, control of asbestos exposure and specific activities.

**Asian Context:** Local circumstances and technical possibilities determine how practicable it is to follow its provisions. Furthermore, these provisions should be read in the context of local conditions, the scale of operation involved and technical possibilities. The detailed practices of this document are valuable for Asian developing countries.

**Critical Appraisal:** This document presents specified recommendations and work practices for asbestos through all industries. This document also includes the principles of the membrane filter method for determining airborne asbestos fiber concentrations by light microscopy, the principles of gravimetric methods for measuring airborne dust containing asbestos at the workplace, and recommendations concerning medical examinations.

Available from:

[http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---safework/documents/normativeinstrument/wcms\\_107843.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/normativeinstrument/wcms_107843.pdf)

2. Occupational Safety and Health Administration (OSHA), US. 29 CFR 1910.1001 Asbestos.

**Background:** This mandatory regulation of the US, OSHA specifies the regulatory requirements and work practices that must be implemented by the employer in general industries.

**Objective:** Regulatory requirements such as permissible exposure limit, exposure monitoring, respiratory protection, hygiene facilities and practices, communication of hazards to employees, medical surveillance, and recordkeeping are detailed to reduce employees' asbestos exposure below the PEL in general industries.

**Asian Context:** This regulation provides not only OSHA's regulatory requirements but also detailed work practices which can be a common factor for safe work practices in general industries. However, the provisions in this regulation should be read in the context of local conditions, the scale of operation involved and technical possibilities.

**Critical Appraisal:** OSHA's reference sampling and analytical methods, medical questionnaires, interpretation and classification of chest roentgenograms, work practices and engineering controls for automotive brake and clutch inspection, disassembly, repair and assembly, substance technical information for asbestos, medical surveillance guidelines for asbestos smoking cessation program, and information for asbestos are also provided in the appendix.

Available from:

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9995](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9995)

3. Occupational Safety and Health Administration (OSHA), US. 29 CFR 1926.1101 Asbestos.

**Background:** This mandatory regulation of the US, OSHA specifies the regulatory requirements and work practices that must be implemented by the employer in construction industries.

**Objective:** Regulatory requirements and work procedures of asbestos abatement sites such as permissible exposure limit, exposure monitoring, personal protective equipments, and decontamination facilities are detailed to reduce employees' asbestos exposure below the PEL in construction industries.

**Asian Context:** This regulation provides not only OSHA's regulatory requirements but also detailed work practices which can be a common factor for safe work practices in construction industries. However, the provisions in this regulation should be read in the context of local conditions, the scale of operation involved and technical possibilities.

**Critical Appraisal:** OSHA classifies asbestos-containing materials into 4 categories according to their friability and regulates friable materials more strictly. [OSHA's mandatory and non-mandatory technical information such as reference sampling and analytical methods, medical questionnaires, interpretation and classification of chest roentgenograms,](#) work practices and engineering controls for Class I asbestos operations are also provided in the appendix.

Available from:

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10862](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10862)

4. Occupational Safety and Health Administration (OSHA), US. 29 CFR 1926.1101 Asbestos.

**Background:** This mandatory regulation of the US, OSHA specifies the regulatory requirements and work practices that must be implemented by the employer in shipyard industries.

**Objective:** Regulatory requirements and work procedures of asbestos abatement sites such as permissible exposure limit, exposure monitoring, and personal protective equipments are detailed to reduce employees' asbestos exposure below the PEL in shipyard industries.

**Asian Context:** This regulation provides not only OSHA's regulatory requirements but also detailed work practices which can be a common factor for safe work practices in shipyard industries. However, the provisions in this regulation should be read in the context of local conditions, the scale of operation involved and technical possibilities.

**Critical Appraisal:** OSHA's mandatory and non-mandatory technical information such as reference sampling and analytical methods, medical questionnaires, interpretation and classification of chest roentgenograms, work practices and engineering controls for Class I asbestos operations are also provided in the appendix.

Available from:

[http://www.osha.gov/pls/oshaweb/owasrch.search\\_form?p\\_doc\\_type=STANDARDS&p\\_toc\\_level=1&p\\_keyvalue=1915](http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1915)

5. Environmental Protection Agency (EPA), US. Guidance for controlling asbestos-containing materials in buildings. EPA 560/5-85-024. 1985.

**Background:** This manual, issued by the US, EPA is a building owners' guidance to understand the technical issues, determine if asbestos is present in a building, plan a control program, and choose the course of further action if necessary.

**Objective:** This manual covers the steps that a building owner should take to control asbestos. This manual details determining if asbestos-containing material is present in buildings, establishing a special operations and maintenance program, asbestos control beyond special operations and maintenance, abatement methods and conducting abatement projects.

**Asian Context:** Controlling asbestos in buildings is important because most asbestos has been used in building materials. This manual provides detailed information about the maintenance of asbestos in buildings.

**Critical Appraisal:** This document is one of the most well organized manuals for the management of asbestos in buildings.

6. Environmental Protection Agency (EPA), US. How to manage asbestos in school buildings: The AHERA designated person's self-study guide. EPA 910-B-96-001. 1996.

**Background:** This document is for persons recently appointed to the position of AHERA-designated person, as well as persons who have held the position for some time. EPA requires schools to appoint an asbestos manager, called the “Asbestos Hazard Emergency Response Act (AHERA)-Designated Person”.

**Objective:** This manual covers an introduction to asbestos, asbestos health risks, requirements of local education agencies, AHERA inspection, management plan, re-inspections and periodic surveillance, operation and management program, training and accreditation, recordkeeping and related regulations in the US.

**Asian Context:** Although this manual is for the management of asbestos in schools in the US, its general management process and requirement can be expanded and applied to the management of public buildings.

**Critical Appraisal:** This document is one of the most well organized manuals for the management of asbestos in schools. Sometimes more strict regulations are required for children who are more vulnerable to asbestos.

Available from:

<http://www.epa.gov/region2/ahera/e23.pdf>



7. Health and Safety Executive (HSE), UK. Asbestos essentials.

**Background:** This document is a task manual for buildings, maintenance and allied trades on non-licensed asbestos work by the Control of Asbestos Regulations 2006 in the UK.

**Objective:** A manual with guidance and an extensive list of task sheets are provided for all workers (employers, employees and self-employed) who may come into contact with asbestos, such as electricians, builders, plumbers, carpenters and other trades. The 38-specific task sheets cover most aspects of potentially hazardous work on, or near, asbestos materials including drilling, removing, repairing, painting, enclosing and cleaning. Broader issues relating to uncovering or damaging asbestos, the required training, vacuuming, damp wetting, decontamination, personal protective equipments and disposal are covered by general advice given in stage-by-stage method sheets.

**Asian Context:** This document provides safe work practices for the operation and management of asbestos-containing buildings and facilities.

**Critical Appraisal:** This document is one of the most well organized safe work practices for asbestos work but does not cover work activities involving work in general industries and work with friable asbestos-containing materials, which are classified as the licensed works and are more strictly regulated in the UK.

Available from:

<http://www.hse.gov.uk/asbestos/essentials/index.htm>

8. Health and Safety Executive (HSE), UK. A comprehensive guide to managing asbestos in premises. 2002.

**Background:** This guidance issued by the UK, HSE is for those who have a duty to manage the risks from asbestos-containing materials in premises. HSE mentions that following this guidance is not compulsory but will normally be sufficient to comply with the law in the UK.

**Objective:** This guidance covers how to prevent, or, where this is not reasonably practicable, minimize, exposure to this group of workers and other employees by managing the asbestos-containing materials. This guidance also includes appendices on surveying to find asbestos in buildings, how to assess the risks from the asbestos, the options available for the management of the asbestos-containing materials present, deciding which management option is appropriate and assessing information of selecting surveyors, consultants and licensed asbestos removal contractors. Real examples of approaches to the management of asbestos-containing program are also provided.

**Asian Context:** This document provides safe work practices for the operation and management of asbestos-containing buildings and facilities for Asian countries.

**Critical Appraisal:** This document does not cover work activities involving work in general industries.

Available from:

<http://www.hse.gov.uk/pubns/books/hsg227.htm>

9. WorkSafe BC. Safe work practices for handling asbestos. 1996.

**Background:** This document provides safe work practices for handling asbestos and is issued by WorkSafeBC, which is dedicated to promoting workplace health and safety for the workers and employers of British Columbia.

**Objective:** This manual provides general information that employers can use to develop their own site-specific procedures. The manual covers safe employer's responsibilities, safe work procedures, personal protective equipment and emergencies and incidents for handling of asbestos in buildings and facilities.

**Asian Context:** This document provides safe work practices for the operation and management of asbestos-containing buildings and facilities for Asian countries.

**Critical Appraisal:** This document is one of the most well organized safe work practices for asbestos work but does not cover work activities in general industries.

Available from:

[http://www.worksafebc.com/publications/health\\_and\\_safety/by\\_topic/assets/pdf/asbestos.pdf](http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/asbestos.pdf)

10. WorkSafe BC. Safe work practices for asbestos laboratories. 2008.

**Background:** This manual is intended for asbestos laboratories and laboratory analysts, including field analysts, who examine building products, other materials (brake pads, clutch pads, furniture, etc.), and air samples for the presence of asbestos and is issued by WorkSafeBC, which is dedicated to promoting workplace health and safety for the workers and employers of British Columbia.

**Objective:** This manual provides general health and safety requirements and detailed procedures for safe laboratories, including identifying and assessing hazards, exposure control plans, personal protective equipment, emergency preparedness and waste disposal. An occupational health and safety regulation checklist for asbestos laboratories is also provided.

**Asian Context:** The increasing demand for asbestos analysis can produce many asbestos analysts and surveyors who are also asbestos workers and who need to be taken care of. For Asian countries facing an increase in laboratory asbestos testing due to the strengthening of regulations on asbestos, this document shows good examples of safe work practices on asbestos laboratories.

**Critical Appraisal:** This document provides well organized safe work practices for asbestos laboratories that should be applied by occupational health and safety regulation of British Columbia.

Available from:

[http://www.worksafebc.com/publications/health\\_and\\_safety/by\\_topic/assets/pdf/asbestos\\_labs.pdf](http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/asbestos_labs.pdf)