

إرشاد فني TECHNICAL GUIDELINE

رقم (11) Number

السلامة في التعامل مع الأسبستوس
Safety in Handling Asbestos

يونيو - 2011 - June

Background:

Asbestos is a versatile material (*includes chrysolite, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered*) used in the manufacture of asbestos products such as asbestos cement pipe, sheets, gaskets, packing, brake linings, lagging material, and in architectural uses such as walls and ceilings.

Exposure to airborne asbestos dust or fiber by inhalation during the course of production, construction related works using asbestos containing materials, storage, handling, removal, transportation and disposal of wastes containing asbestos, may result in asbestosis, lung cancer and other lung disorders.

Rationale:

Dubai Municipality Occupational Health and Safety Regulations require individual and companies dealing with Asbestos to take all necessary steps to:

- to control and prevent exposures to airborne asbestos fibers above 0.1f/cc (8hr TWA) in the working environment.
- to prevent harm to community health.
- eliminate risks to workmen as well as the public.
- to provide clear guidelines on asbestos handling, storage and disposal.

Definition:

Asbestos fiber - means a particulate form of asbestos 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

Asbestos sheets- sheets being manufactured from cement after mixing with asbestos materials. Asbestos being used in construction field; ceilings for houses; and exterior/interior insulations making.

Asbestos pipes- pipes made from cement with asbestos materials introduced in the manufacturing process.

Other productions that contain asbestos - any materials or products with asbestos and its compound that contains 1% in weight of asbestos fiber.

PEL: Permissible Exposure Limit.

Guidelines

I. GENERAL

1. Company/employer is responsible to control and prevent exposures of workers to airborne asbestos fibers above 0.1 f/cc in the working environment; during transport and disposals of asbestos materials /wastes.
2. Time-weighted average limits (TWA) or Permissible Exposure Limit (PEL). The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8)-hour time-weighted average (TWA) as determined by the method approved by competent authority.
3. Excursion Limit. The employer/company shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of thirty (30) minutes as determined using the method approved by competent authority.
4. Company is responsible for providing all workers and ensuring them to wear protective equipments and protective clothes required for work, and ensuring the isolation of the contaminated clothes and clean it separately. This protective equipments and clothes shall include: a.) safety shoes, b.) protective eye glass, c.) gloves, d.) ear muffs, e.) dust mask and especial mask for asbestos.
5. Industries using asbestos products must inform and obtain the approval of DM - Environment Department.

II. ASBESTOS PRODUCTS

1. Production Facilities

1. Where asbestos fiber is supplied in paper or plastic bags, the bags should be opened and emptied automatically whenever practicable.
2. The bags should be placed as close as possible to the hopper or feed chamber.
3. Dropping and dragging of finished asbestos - cement products should be avoided.
4. All power-sawing, drilling, sanding or milling machines engaged in finishing operations, should be fitted with efficient dust extraction equipment.
5. Dust and swarf should be removed from the workplace by vacuum cleaning.
6. The employer shall institute engineering controls and work practices to reduce employee exposure to materials containing asbestos using a negative pressure enclosure/HEPA vacuum system method or low pressure/wet cleaning method.

2. *Storage and Transporting*

A. Packing and Transporting.

1. Asbestos fiber or waste should always be double bagged in minimum 200 plastic bags. Bags should be closed by either heat sealing or tape.
2. All bags should be printed with an approved label identifying the contents as asbestos and carrying a health warning.
3. Hooks or other sharp equipment should not be used to lift bags.
4. All vehicles used for the transport of asbestos should be properly cleaned after they have been unloaded.
5. A vacuum cleaner should be used for cleaning.
6. Suitable adhesive tape should be available and used for the repair of damaged bags.

B. Storage/Warehousing.

1. All bags of asbestos material should be stacked on pallets.
2. All damaged bags should be repaired immediately.

3. *Use of asbestos products:*

A. Construction and Alteration Work.

1. All material to be used on site containing asbestos should be labeled.
2. Materials containing asbestos in bonded form such as caulking compounds, and bituminous damp coursing should, when stand or abraded be subject to appropriate precaution.
3. Buildings or structures having significant amounts of asbestos containing insulation material or sheeting which is prone to become airborne during operation should observe all precautions.
4. Abrasive or masonry discs should not be used for cutting asbestos material.
5. Broken pieces or off-cuts of asbestos cement material should be collected and disposed of in a manner not to generate dust.
6. Loose swarf and dust collected from fabrication processes should be wetted and placed in sealed impermeable bags.

B. Insulation and Cladding.

1. Asbestos should not be used for cladding; lagging and insulation unless there is no viable alternative and approval is obtained from the EPSS. When asbestos cloth is used for insulation on site, dust suppression by thorough damping before cutting and stitching should be employed.
2. If cutting or pipe wrapping/lagging with rope is done, the work area should be separated from other areas.
3. Waste materials should not be allowed to accumulate. They should be placed in impermeable bags.

C. Encapsulation or Removal of Friable Thermal or Acoustic Insulation.

1. Enclosure of the Work Area: Where dust is prone to escape from areas, all external openings from the work area should be adequately sealed to prevent the escape of asbestos dust.
2. Wet stripping should be adopted to eliminate air-borne fibers.
3. Dry stripping is associated with very high level of asbestos. It should be used only:
 - a. Where wet methods cannot be used;
 - b. Where live electrical apparatus is present
 - c. Where hot metal is present.

and there should be dust extraction system in place.

D. Servicing of brakes and clutches in garages and workshops.

1. Compressed air or dry brushing should not be used to remove accumulated dust from brake and clutch assemblies.
2. Dust should be removed by a vacuum cleaner fitted with a high efficiency filter.
3. Where products are machined, dust extraction equipment should be fitted.
4. Loose swarf and dust should be removed from the workplace.
5. Brake lining dust must be double bagged before disposal into the general waste stream.

III. ASBESTOS WASTE.

1. *Demolition Work Waste.*

1. During demolition work, fixed or removable structures containing asbestos material should be collected in plastic sheeting which can be folded to form sealed containers.
2. Where practicable, the waste material should be wetted in order to minimize asbestos dust emission.

2. *The Collection and Transport of Asbestos Waste.*

A.

1. All wastes containing asbestos should be collected in bags of semi-transparent material such as polyethylene.
2. The wastes so collected in bags should be sealed to prevent escape of dust during subsequent handling.
3. Label specification:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

B. Waste material from fixing or removing insulation:

1. Where fixing or stripping operations are being carried on, floor surfaces should be covered with plastic sheeting which can be folded to form sealed containers.
 2. Where practicable, the use of automatic removal of cut off, and collection in disposable receptacle should be followed.
- C. Asbestos cement sheeting/ pipes, jointing etc. should be stored in such a manner as to ensure that it will not be abraded or crushed while awaiting disposal.
- D. Sacks or bags which have been contained loose asbestos fiber should be disposed of by grinding, melting or bagged.
- E. Wet waste: Asbestos sludge or slurry.
Asbestos waste in the form of sludge or slurry should be transported in carriers without any spillage.
- F. Transport of Waste. Asbestos waste (double pack for road transport with packaging material approved for asbestos) should be transported to the disposal site in such a way that no dust is emitted into air during transport.

3. *Asbestos Waste Disposal in Dubai.*

- A. Asbestos cement sheets or dry solids are to be disposed of as land fill material at solid waste building materials disposal sites at Al Aweer/ Al Qusais. **(Check first with the Waste Management Department)**
- B. The other asbestos wastes shall be disposed by submitting the "Application for Disposal of Hazardous Waste" to Environmental Protection and Safety Section, at the appropriate disposal site designated by the Dubai Municipality.
- C. The waste should wherever practicable, be deposited at the foot of the working face of the landfill or at the bottom of an excavation dug for it.
- D. No asbestos waste in the land-fill site shall be left uncovered at the end of a working day.

- E. If wet waste is deposited, it should be covered in the same way as dry waste to prevent escape of asbestos dust on dry out.
- F. Workers occupied in the collection, transport or disposal of asbestos waste should be provided with suitable protective clothing and respiratory equipment.
- G. Contaminated protective clothing shall be segregated and cleaned separately.

IV. WORKPLACE ISOLATION AND CONFINEMENT

During the removal/disposal of Asbestos wastes in workplace the following shall be observed:

- a) Whatever the method of stripping/removal is, workplace shall be isolated and secluded with tight plastics enclosures to avoid dispersion of dusts or air pressure inside the workplace shall be changed to negative.
- b) Cautionary signs shall be provided to prevent unauthorized person to enter the workplace.
- c) Warning signs shall be provided and displayed at each regulated area. In addition, warning signs shall be posted at all approaches to regulated areas so that an employee may read the signs and take necessary precautionary steps before entering the area.
- d) In some cases where the process is controlled by good wetting and the workplace is not adjacent to other places occupied by workers, confinement can be done using cordons.
- e) Transport from the workplace to the washing area shall be done carefully and person exposed to asbestos dust shall be isolated to prevent outside contamination from their clothes.
- f) It is preferred to place the washing and changing area adjacent to the workplace.

V. PERSONAL PROTECTIVE EQUIPMENT.

All workers engaged in handling, use, transportation, disposal of asbestos fiber or any product containing asbestos in manufacturing, use, demolition, construction, disposal activities shall be provided with and use appropriate personal protective equipment.

1. General:

All asbestos workers shall be provided with the following personal protective equipment:

- 1. Work coverall.
- 2. Safety shoes.
- 3. Goggles or full-face for exposed workers as in sub par 1-5 below.
- 4. Gloves.

5. Respiratory protection – When concentration is at or above 0.1 f/cc (PEL) or unknown concentration, use SCBA. Full face respirator with HEPA filter can be used where concentration is below the PEL.
6. Helmet and ear plug ear muff are required depending upon the nature of operation.

2. Manufacturing Industry:

1. Work coverall, safety shoes, goggles, gloves, ear muff/ ear plug.
2. Respiratory protection – As in Par V – 1 – 5 above

3. Removal of sheets/ dry solids containing asbestos.

1. Work coverall, safety shoes, goggles, gloves.
2. Respiratory protection – As in Par V – 1 – 5 above

4. Removal of Insulation.

1. Work coverall, safety shoes, goggles, gloves (rubber gloves) to be used when in contact with wet insulation.
2. Respiratory protection – As in Par V - 1 - 5 above.

Check the Federal Law regarding handling asbestos & the disposal of the wastes

For further information please visit

www.dm.gov.ae

or call

Environmental Control Section

Tel.: 6066832 / 6066835 Fax: 7033568

Disclaimer

The information provided on our website is for general information purposes only. While WKC endeavours to provide the most up to date and accurate information, documents and links on our website, we will not be held liable for any loss or damage including without limitation, indirect or consequential loss or damage, or any loss or damage whatsoever arising from the use any of the information provided on our website. For any queries regarding the information on our website, please contact us on enquiries@wkcgroup.com.