Control of Asbestos

Client Information Sheet: Basic information on the Control of Asbestos Regulation 2012, and general information on asbestos.

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CONTROL OF ASBESTOS

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The Control of Asbestos Regulations 2012 (C.A.R-12)

C.A.R-12 came into force on 6th of April 2012 replacing C.A.R-2006 and is covered within the HSE Publication L143 (2nd edition 2013); this puts duties on persons who work with all types of asbestos.

The following is a summary of each of the regulations in turn with some expansion where required:

Regulation-4: Duty to manage asbestos in non- domestic premises

Summary:

This regulation covers the duty to manage asbestos in non-domestic premises. It requires duty holders to identify the location and condition of asbestos in non-domestic premises and to manage the risk to prevent harm to anyone who works on the building or to building occupants. It also explains what is required of people who have a duty to cooperate with the main duty holder to enable them to comply with the regulation. Non-domestic premises include the common parts of domestic premises.

Regulation-5: Identification of the presence of asbestos

Summary:

This regulation requires employers to identify the presence of asbestos and its type and condition before any building, maintenance, demolition or other work, liable to disturb asbestos, begins. It also sets out the requirement to arrange a survey if existing information on the presence of asbestos in the premises is incomplete or appears unreliable.

The HSE Publication HSG 264 the survey guide outlines the types of surveys which are:

- A management survey is the standard survey. Its purpose is to locate, as far as reasonably practicable, the presence and extent of any suspect Asbestos Containing Materials (A.C.Ms) in the building which could be damaged or disturbed during normal occupancy, including foreseeable maintenance and installation, and to assess their condition;
- A refurbishment and demolition survey is needed before any refurbishment or demolition work is carried out. This type of survey is used to locate and describe, as far as reasonably practicable, all A.C.Ms in the area where the refurbishment work will take place or in the whole building if demolition is planned. The survey will be fully intrusive and involve destructive inspection, as necessary, to gain access to all areas, including those that may be difficult to reach. A refurbishment and demolition survey may also be required in other circumstances, eg when more intrusive maintenance and repair work will be carried out or for plant removal or dismantling.

The HSE recommended standard is a UKAS accredited surveyor to ISO 17020.

Further information is provided in the HSE Publication HSG 248 asbestos the analysts guide for sampling analysis and clearance procedures.

Regulation-6: Assessment of work which exposes employees to asbestos

Summary:

This regulation requires employers to carry out a risk assessment to identify the risks of exposure to asbestos. It sets out the requirement to record any significant findings and put in place steps to prevent, or reduce, exposure to employees.

Regulation-7: Plans of work

Summary:

This regulation requires employers to prepare a written plan before work on asbestos is carried out, including details of the work, and the appropriate actions to control risk and prevent harm.

Regulation-8: Licensing of work with asbestos

Summary:

This regulation requires employers to obtain a licence from HSE before they can carry out any licensable work with asbestos.

Regulation-9: Notification of work with asbestos

Summary:

This regulation requires employers to notify the appropriate enforcing authority of proposed work which is either licensable (always notifiable) or Notifiable Non-Licensed Work (N.N.L.W) which applies to some non-licensable work. It also outlines the requirements to notify any material change which might affect the particulars of the original notification, this is particularly important for licensable work.

All works will require trained and competent persons who will be required to give advanced notice via the ASBNNLW1 form to the HSE before commencing the work to allow the contractor mobilisation time.

All licensable work must be notified to the appropriate enforcing authority using the ASB5 form at least 14-days before the work starts.

Regulation-10: Information, instruction, and training

Summary:

This regulation requires employers to make sure that anyone liable to disturb asbestos during their work, or who supervises such employees, receives the correct level of information, instruction and training to enable them to carry out their work safely and competently and without risk to themselves or others.

Asbestos awareness

As outlined in paragraph 235 of the HSE Publication L143, asbestos awareness training should cover the following topics:

- The properties of asbestos and its effects on health, including the increased risk of lung cancer for asbestos workers who smoke;
- The types use and likely occurrence of asbestos and A.C.Ms in buildings and plant;
- The general procedures to be followed to deal with an emergency, eg an uncontrolled release of asbestos dust into the workplace;
- How to avoid the risks from asbestos, eg for building work, no employee should carry out work which disturbs the fabric of a building unless the employer has confirmed that A.C.Ms are not present.

Non-licensable work including N.N.L.W

Non-licensable work including N.N.L.W which is often referred to as Cat-B training should in addition to the asbestos awareness in paragraph 235, follow the guidance in paragraph 238 that those employees whose work will knowingly disturb A.C.Ms, and which is defined as non-licensable work or N.N.L.W, should receive additional task-specific information, instruction and training.

Regulation-11: Prevention or reduction of exposure to asbestos

Summary:

This regulation requires employers to prevent employees being exposed to asbestos or, if this is not possible, to put in place the measures and controls necessary to reduce exposure to as low as is reasonably practicable.

Regulation-12: Use of control measures etc

Summary:

This regulation requires employers to put procedures in place to make sure employees use and apply control measures. It also requires the employees to make full and proper use of those measures.

Control limit (maximum permissible exposure)

The control limit is defined in C.A.R-12 and mean the following concentration if asbestos in the atmosphere when measured under phased contrast microscopy (P.C.M) using an organisation conforming to ISO 17025 (UKAS accreditation in the U.K). The control limit (C.L) & short-term exposure limit (S.T.E.L) for asbestos are:

- C.L = 0.1 fibres per centimetre^3 of air averaged over a continuous period of 4-hours
- S.T.E.L = 0.6 fibres per centimetre^3 of air averaged over a continuous period of 10-mins

These levels (C.L & S.T.E.L) are the maximum permissible exposure levels for asbestos, above which suitable and sufficient respiratory protective equipment must be provided and worn and the area designated a respirator zone.

Personal Protective Equipment (P.P.E) and Respiratory Protective Equipment (R.P.E)

P.P.E & R.P.E must be worn unless an assessment of the likely maximum exposure indicates that the control limits will not be exceeded, where there is potential for exposure to asbestos it is prudent to carry out personal & background air monitoring.

All asbestos should be in full compliance with HSE 's guidance document HSG-210, sheet EM6

The minimum standards for this type of works are as follows:

R.P.E.

Use suitable R.P.E with a UK Assigned Protection Factor (A.P.F) of 20 or more.

Suitable types of R.P.E:

- Disposable respirator to standards EN 149 (type FFP3) or EN 1827 (type FMP3);
- Half-mask respirator (to standard EN 140) with P3 filter (such as Sundstrom SR100 half face mask with P3 filter); or
- Semi-disposable respirator (to EN 405) with P3 filter.

This equipment should be suitable for most short-duration non-licensed work. Workers should select a make and size that fits them.

This equipment is not suitable for people with beards or stubble – hooded respirators are required for these situations.

The equipment is also unsuitable for long periods (over 1-hour of continuous wear as per HSG 53 Respiratory Protective Equipment at Work) where power-assisted equipment is required.

Overalls

- Disposable overalls – Type-5 category-3 (BS EN ISO 13982-1+A1) are suitable.
- You may need waterproof overalls for outdoor work.
- Wear one size too big to help to prevent ripping at the seams.
- If the cuffs are loose, seal them with tape.
- Avoid wearing a long-sleeved shirt – these are difficult to cover properly.
- Wear the overall legs over footwear. Tucking them in lets dust into footwear.
- Wear the hood over RPE straps.
- Dispose of used overalls as asbestos waste.

Gloves

If you wear protective gloves, use single-use disposable gloves. If you must use latex gloves, use only 'low-protein powder-free' gloves.

Dispose of used gloves as asbestos waste.

Footwear

Boots are preferable to disposable overshoes which can cause a slipping risk.

Choose boots without laces as these are easier to clean.

Regulation-13: Maintenance of control measures etc

Summary:

This regulation requires employers to carry out regular inspection and maintenance of control measures to make sure they are kept in good efficient working order. It also requires a competent person to test and examine exhaust ventilation and R.P.E at suitable intervals and for records of examinations and tests to be kept for at least five years.

Regulation-14: Provision and cleaning of protective clothing

Summary:

This regulation requires employers to provide employees with adequate personal protective clothing appropriate for the work they will be doing. It also sets out the requirement for proper cleaning, maintenance and storage of the clothing.

Regulation-15: Arrangements to deal with accidents, incidents and emergencies

Summary:

This regulation requires employers to prepare procedures on what to do if there is an accidental, unplanned, uncontrolled release of asbestos fibre. Also, for licensable work, procedures must be planned, implemented and tested and warning systems should be in place. Details of this information must be given to the emergency services.

Regulation-16: Duty to prevent or reduce the spread of asbestos

Summary:

This regulation requires employers to prevent or reduce the spread of asbestos anywhere work is being carried out under their control.

Regulation-17: Cleanliness of premises and plant

Summary:

This regulation requires employers to make sure that work areas, plant and equipment used for asbestos work are kept clean. It also requires the employer to make sure the area is thoroughly cleaned after work is finished.

Regulation-18: Designated areas

Summary:

This regulation requires employers to make sure that areas, where asbestos work is being carried out, are separated, clearly marked, and restricted to those required to work in the area. It also requires the employer to provide suitable facilities for employees to eat and drink.

Regulation-19: Air monitoring

Summary:

This regulation requires employers to arrange regular monitoring of airborne asbestos fibres and keep records of the results. It sets out how long the records should be kept and that they should be made available to employees or the regulator as required.

Regulation-20: Standards for air testing and site clearance certification

Summary:

This regulation requires employers performing their own air testing to do it in a way that meets the criteria as set out in I.S.O 17025. It also requires employers to make sure that any person they engage to perform asbestos air testing and site clearance is competent and accredited by the appropriate accreditation body.

Regulation-21: Standards for analysis

Summary:

This regulation requires employers performing their own analysis of material to check for asbestos in a way that meets the criteria set out in I.S.O 17025. It also requires employers to make sure any person they engage to perform the analysis is accredited to I.S.O standard by the appropriate body.

Regulation-22: Health records and medical surveillance

Summary:

This regulation requires employers to arrange appropriate medical examinations for any employees who carry out licensable work or N.N.L.W. It also sets out what health records employers must keep and for how long.

Regulation-23: Washing and changing facilities

Summary:

This regulation requires employers to provide suitable and sufficient washing, changing and storage facilities for employees, and sets out the specific requirements for hygiene facilities for licensable work.

Regulation-24: Storage, distribution and labelling of raw asbestos and asbestos waste

Summary:

This regulation requires employers to make sure that raw asbestos and asbestos waste is properly packaged, labelled, stored and transported.

Asbestos information

Asbestos Containing Material (A.C.M) cement

Asbestos containing material cement is primarily a cement-based product where about 10-15% w/w (weight to weight ratio) of asbestos fibres (mainly white but can be blue/brown) are added to reinforce the cement.

As well as an insulation and fireproofing aid, asbestos cement was used due to the fact that it is weatherproof in that, although serpentine chrysotile is hydrophilic (will absorb moisture) water does not pass through the mineral.

This product was in common usage until asbestos was finally, fully banned under the Asbestos (Prohibitions) (Amendment) Regulations S.I. 1999 No. 2373/99 which imposed a total ban from November 24th, 1999 on the selling and fixing of asbestos containing products.

This ban extends to selling and fixing second-hand asbestos cement products, but it does not affect the sale of property that contains any asbestos cement product.

Identification of A.C.M cement is best achieved by bulk sampling at a UKAS accredited laboratory however they can be identified by the manufacturers mark, usually in code form and may be inkjet printed or stamped can provide information if the product contains asbestos. If so, then the manufacturers' mark should include the letters AC; similarly, if the product is non-asbestos, then it should contain the letters NT (for New Technology).

General

Asbestos is the name given to a group of naturally occurring minerals that are contained within rock. These minerals appear as masses of strong, flexible fibres that can be separated and woven into threads, having been mined for thousands of years.

Heat or chemicals do not affect asbestos fibres, and they do not conduct electricity.

Fibres are stronger than steel, lighter than steel, and quite resilient and for these reasons asbestos has been widely used in industry for a variety of applications.

Types of asbestos:

There are two varieties of asbestos with three main types; Chrysotile, with its long flexible fibres, belongs to the serpentine family of minerals, whereas Crocidolite (fibrous Riebeckite) and Amosite (fibrous Grunerite) have needle-like fibres and belong to the family of asbestos known as amphiboles.

Common types of asbestos are:

- Chrysotile white Serpentine
- Amosite brown Amphibole
- Crocidolite blue Amphibole

The less common types of fibrous amphibole are:

- Actinolite green/white
- Anthophyllite green/brown
- Tremolite green/white

Chrysotile differs significantly in texture, composition and behaviour from other forms of the mineral. Its structure is snakelike (hence the alternative name serpentine). It is noticeably softer and more flexible than the other kinds of asbestos, for this reason Chrysotile once accounted for more than 95% of the asbestos used worldwide with over six-million tonnes being imported into the U.K.

Health effects

Asbestos fibres tend to break easily into a dust composed of tiny particles that can float in the air and stick to clothes. These fibres are easily inhaled or swallowed and can cause serious health problems. All asbestos fibres are hazardous however very small fibres <3 microns diameter (1mm = 1000 microns) are known to be Respirable, can penetrate body tissues, particularly the lungs, eventually causing permanent damage to the lungs and other organs.

All asbestos has the potential to cause pleural plaques, asbestosis, lung cancer and, or mesothelioma illnesses; currently >5,000 people every year are dying in the U.K from asbestos related diseases, Professor Julian Peto - Institute for Cancer Research predicts upwards of 10,000 deaths per year in the U.K by 2025).

Health risks & R.I.D.D.O.R 2013

All asbestos is hazardous as it has the potential to cause serious harm however it is not necessarily a risk if undisturbed and or adequately controlled to prevent unnecessary asbestos exposure.

Text extracted from OC 265/48 version 3 for employees

The following are examples of uncontrolled work activities likely to create a significant concentration of fibres in the air, thereby adding to the risk of developing an asbestos related disease:

- Use of power tools (to drill, cut etc) on most A.C.Ms;
- Physical disturbance, such as knocking, breaking, smashing of a licensable A.C.M e.g. sprayed coating, lagging, Asbestos Insulating Board (A.I.B);
- Manually cutting or drilling A.I.B;
- Aggressive physical disturbance of A.C.Ms, e.g. breaking or smashing.

Any of the work activities listed above could be regarded as Dangerous Occurrences. They should be reported to HSE's Incident Contact Centre (tel: 0845 3009923) where they take place, or are repeated (without effective controls), for more than the periods of time outlined below:

Waste

All asbestos should be disposed of in full compliance with H.S.E 's guidance document HS.G.-210, sheet EM9.

All asbestos waste is subject to Schedule-2 of C.A.R-12 and most waste is subject to The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (hereafter referred to as C.D.G-09). C.D.G-09 does not apply to firmly- bound asbestos – asbestos cement or articles with asbestos reinforcement which do not release hazardous or respirable fibres easily. However, the hazardous and special waste regulations still apply. C.D.G-09 applies for all other asbestos waste.

Licensable work with asbestos

Most higher-risk work with asbestos must only be done by a licensed contractor.

Licensable work with asbestos is work:

- Where worker exposure to asbestos is not sporadic and of low intensity; or
- Where the risk assessment cannot clearly demonstrate that the control limit will not be exceeded i.e. 0.1 f/cm3 of air (averaged over a four-hour period); or
- On asbestos coating; or
- On asbestos insulation or asbestos insulating board where the risk assessment demonstrates that the work is not short duration work, e.g. when work with these materials will take no more than two hours in any seven-day period, and no one person works for more than one hour in that two-hour period.

Some examples on what types of work are considered to be licensable can be found in the table below, but any decision on whether a particular work activity is licensable or not will need to be based on the risk.

Examples of licensable work

- Removing sprayed coatings (limpet asbestos)
- Removal or other work which may disturb pipe lagging
- Any work involving loose fill insulation
- Work on asbestos millboard
- Cleaning up significant quantities of loose/fine debris containing A.C.M dust (where the work is not sporadic and of low intensity, the control limit will be exceeded, or it is not short duration work)
- Work on AIB, where the risk assessment indicates that it will not be of short duration.

Non-licensed work with asbestos

Most higher risk work with asbestos must only be done by a licensed contractor but any decision on whether particular work is licensable is based on the risk.

To be exempt from needing a licence the work must be:

- Sporadic and of low intensity - to be considered sporadic and of low intensity the concentration of asbestos in the air should not exceed 0.6f/cm3 measured over 10-minutes;
- Carried out in such a way that the exposure of workers to asbestos will not exceed the legal control limit of 0.1 f/cm3 (averaged over a four-hour period);
- Meet at least one of the four following conditions:
  1) It is a short non-continuous maintenance task, with only non-friable materials (friability describes how likely an A.C.M is to release asbestos fibres when worked on, so non-friable materials will only release a small number of fibres during work); or
  2) It is a removal task, where the A.C.Ms are in reasonable condition and are not being deliberately broken up, and the asbestos fibres are firmly contained within a matrix, eg the asbestos is coated, covered or contained within another material, such as cement, paint or plastic; or
  3) It is a task where the A.C.Ms are in good condition and are being sealed or encapsulated to ensure they are not easily damaged in the future; or
  4) It is an air monitoring and control task to check fibre concentrations in the air, or it's the collection and analysis of asbestos samples to confirm the presence of asbestos in a material.

Examples of non-licensed work with asbestos

- Cleaning up small quantities of loose/ fine debris containing A.C.M dust (where the work is sporadic and of low intensity, the control limit will not be exceeded, and it is short duration work);
- Drilling of textured decorative coatings for installation of fixtures/fittings;
- Encapsulation and sealing-in work on A.C.Ms that are in good condition.

Maintenance work involving

- Asbestos cement products (e.g. on roof sheeting, tiles and rainwater goods)
- Asbestos in ropes, yarns and woven cloth
- Asbestos gaskets or asbestos rope cords (including removal as part of repair and upkeep of equipment) if this can be done without substantial breakage

- Asbestos-containing thermoplastic and vinyl floor tiles, bitumen roof felt, shingles, damp-proofing coatings, and mastics
- Asbestos-containing felt and paper
- Plastic paint coatings, P.V.C floors, panels and sealing compounds
- Asbestos-containing conveyor belts/drive belts, bonded rubber, electric cables
- Resin-based A.C.Ms such as friction products (e.g. brake linings)
- Painting/repainting A.I.B that is in good condition

Removal of

- Asbestos cement products, (e.g. roof sheeting and rainwater goods) provided the material is carefully handled/removed without breaking up; this includes work with asbestos cement which is weathered but not otherwise substantially damaged.
- Small areas of textured decorative coatings using suitable dust-reducing methods, to support other activities such as installation/replacement of smoke alarms and light fittings.
- Textured decorative coatings provided that this can be done without deterioration of the material, (e.g. if the backing board is carefully cut around to achieve virtually intact removal).
- Loosely fixed (e.g. screwed) asbestos insulating board (A.I.B) panels in order to gain access to areas for other maintenance activities (e.g. under a bath to carry out pipework maintenance, or for access to a ceiling void for repair of lighting). This also includes re-attaching the panels after the work is done.
- An A.I.B door with asbestos fireproofing.

Short duration work

- To repair minor damage to A.I.B
- Involving drilling holes in A.I.B (eg when installing shelving)

Other work

- On other materials containing asbestos (such as paints, bitumen, resins, rubber, etc) where the fibres are bound in a matrix which prevents most of them being released (this includes, typically, aged/weathered A.C.M cement)
- Associated with collecting and analysing samples to identify the presence of asbestos

Further examples of non-licensed work are available in Asbestos Essentials.