



States of Guernsey
Health and Safety Executive

CONTROL OF ASBESTOS

Approved Code of Practice 2013 (rev 2016)

The Health and Safety at Work (General) (Guernsey) Ordinance, 1987



The Health and Safety at Work (General) (Guernsey) Ordinance, 1987

Approved Codes of Practice (ACoPs) provide practical advice on how to meet the legal requirements set out in the Ordinance. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters to which the ACoP refers. Following the advice is not compulsory and you are free to take other action and use alternative methods to those set out in the ACoP in order to comply with the law.

However, the ACoP has a special legal status. If you are prosecuted for a breach of health and safety law, and it is proved that you did not follow the relevant provisions of the ACoP, you will need to show that you have complied with the law in some other way or the court will find you at fault.

Control of Asbestos

Approved Code of Practice 2013

Notice of Approval

This Code of Practice, entitled “Control of Asbestos” has been approved by the Board of the Commerce and Employment Department under Section 13 of the Health and Safety at Work (General) (Guernsey) Ordinance, 1987. It revises the Approved Code of Practice “Management of exposure to asbestos in workplace buildings and structures” dated May 2010. The approval takes effect on 08 April 2013.

Deputy Kevin Stewart

Minister

Commerce and Employment Department

Date: 02 April 2013

Under the Public Functions (Transfer and Performance) (Bailiwick of Guernsey) Law, 1991, the approval remains valid from 01 May 2016 , as if approved by the Committee *for* Employment and Social Security. (rev 2016)

Control of Asbestos – Approved Code of Practice

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Preface

Asbestos containing materials, which have been widely used in the construction of buildings and structures in Guernsey, are recognised as causing a range of serious, and often fatal, diseases to persons through the inhalation of asbestos fibres.

This revised Approved Code of Practice (ACoP) has been approved by the Board of Commerce and Employment in order to provide practical guidance to persons who have duties under Part 1 of the Health and Safety at Work (General) (Guernsey) Ordinance, 1987, and who have responsibility for workplaces or are involved with working with asbestos.

BACKGROUND sets out the background to the use of asbestos and the potential risks to health which result from the inhalation of asbestos fibres.

PART ONE of the ACoP sets out the General Principles for the Control of Asbestos, which are further detailed in the rest of the ACoP.

PART TWO sets out the manner in which employers and others who have responsibility for the maintenance and repair of buildings and structures can manage the risks from exposure to asbestos through the development of an asbestos management plan.

PART THREE contains guidance on notifiable work with asbestos, including asbestos insulation, asbestos insulation board and asbestos coatings which must be removed by competent, experienced asbestos removal contractors.

PART FOUR contains guidance on non-notifiable and other work with other asbestos containing materials.

Asbestos containing materials were used extensively in Guernsey during the past century. It is important that any person who carries out work where they may come across asbestos, or who intentionally works with the material, follows the legal requirements placed upon them in order to ensure that they, and persons who may be affected by the way they work, are not exposed to an unacceptable risk of premature death or illness due to exposure to asbestos fibres. The diseases caused by exposure to asbestos fibres not only cause unnecessary suffering to victims and their dependants, but can also result in a business incurring heavy financial costs and penalties.

This ACoP addresses the subject by establishing the procedures to be followed in order to reduce the risks from asbestos to an acceptable level. The document also indicates where it will be necessary to obtain specialist assistance in determining or controlling the risks.

With increasing knowledge and technical advances there will be ongoing changes in effective practices and the equipment available to achieve the goals set out in the ACoP, so these are not discussed in the ACoP in detail. The document refers to publications issued by the UK Health and Safety Executive (UK HSE) which are likely to be subject to frequent and ongoing revision reflecting the changes in what is "accepted best practice". This is a reflection not only of the objective of the ACoP, but also of the Health and Safety at Work (General) (Guernsey) Ordinance, 1987. The HSE publications which are referred to are current at the time of publication, however, in view of the improvements that continue to be made, care should be taken to ensure that any references quoted in the ACoP are still current.

Who should read this publication?

This guidance is relevant to all persons with responsibility for maintenance, repair and management of premises being used as a workplace (i.e., any premises which form part of a business, including shops, offices, industrial buildings, hotels, schools, residential homes for the elderly etc.). These persons may include building owners, managing agents, tenants and others who have legal responsibility for the premises. Others involved with work activities, such as employees and/or safety representatives may also find the ACoP useful. Where buildings are occupied by tenants, the extent of responsibility of all parties, including the building owner, will depend upon the contract or other tenancy agreement.

Legal precedents have established that common parts of blocks of flats are not part of the private dwelling and are therefore classified as non-domestic, thereby falling within the scope of this ACoP. This would include foyers, corridors, lifts and lift shafts, staircases, boiler houses, gardens and outhouses.

Owners occupiers of domestic premises (private dwellings where somebody lives) do not have the same legal responsibilities as the above categories, but it is important to realise that contractors working in or on domestic premises are at work and are therefore subject to the standards set out in this ACoP, even though the owner or occupier may not have any obligations themselves. The occupiers of rented domestic premises may be offered protection under the Code of Good Practise

for Renting Accommodation, issued and enforced by the Office of Environmental Health and Pollution Regulation.

The Law

Employers have a duty to ensure, so far as is reasonably practicable, the health, safety and welfare of their employees and others who may be affected by their undertaking, as applicable under the Health and Safety at Work (General) (Guernsey) Ordinance, 1987,

Part 1 of the Health and Safety at Work (General) (Guernsey) Ordinance, 1987, places general duties on all persons involved with work activities.

Section 1 sets out the duty of an employer to his employees. Section 1 (2) goes on to give examples of the extent of this duty which includes:

- The provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health.
- Arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health in connection with the use, handling, storage and transport of articles and substances.
- The provision of such information, instruction and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees.
- So far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health, and the provision and maintenance of access to and egress from it that are safe and without such risks.
- The provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risks to health and adequate as regards facilities and arrangements for their welfare at work.

Section 1 (3) requires all employers with 5 or more employees to prepare a written health and safety policy document. This should also include the arrangements for controlling the risks of exposure to asbestos fibre.

Section 2 requires employers to take into account the effect their work may have on others, including the general public or other groups of workers etc. The self employed must also take into

consideration the manner in which they carry out their work and the effect it may have on both themselves and others.

Where others have control of premises used as a place of work, but do not have employees working on the premises (or possibly have no employees at all) **Section 3** places duties on them in respect of areas under their control.

Section 5 sets out the duties on designers, manufacturers, importers and suppliers to ensure that products intended to be used at a place of work can be used safely and without risk to health.

The duties of employees are set out in **Section 6**. They are required to take reasonable care of themselves and other people who may be affected by the way they work. Employees must also co-operate with their employer and any other person upon whom any legal requirements are imposed, for example, by adopting safe systems of work, wearing appropriate personal protective equipment provided such as respirators etc.

Section 7 requires that no person shall intentionally or recklessly interfere with, or misuse, anything provided in the interests of health, safety or welfare as required by law.

Other legislation

The disposal of asbestos and transport of asbestos waste may require a licence or exemption from the Office for Environmental Health and Pollution Regulation. Further information can be obtained by calling 01481 711 161.

Employers must also ensure that any work with asbestos is covered by their insurance policy, as required by the Employers' Liability (Compulsory Insurance) (Guernsey) Law, 1993. Employers should also check their policy documents to ensure that work with any asbestos containing material is covered.

More information on your other legal responsibilities may be obtained from the Health and Safety Executive, or through the website, www.hse.guernsey.gg

Interpretation of 'reasonably practicable'

Requirements set out in health and safety legislation may be subject to the qualifying terms "practicable" and "reasonably practicable" which have been interpreted by the courts in a consistent manner whenever they are used in health and safety legislation.

The term "practicable" implies a very strict standard and infers a statutory obligation that has to be carried out if, in the light of current knowledge, it is feasible, irrespective of cost or difficulty.

The term "reasonably practicable" is a narrower term than physically possible and allows economic considerations to be taken into account as one factor, with, for example, time or trouble, to be set against the risk. Where it is shown that the risk is insignificant compared to the costs involved, the measures required to overcome the risk may not be considered to be "reasonably practicable".

When taking into account the known health risks from exposure to asbestos, however, the use of the term does impose the requirement for a very high standard.

Legal status of an ACoP

ACoPs provide practical guidance on how to meet the legal requirements set out in the legislation. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters to which the ACoP refers. You may use alternative methods to those set out in the ACoP in order to comply with the law, however, the ACoP has a special legal status. If you are prosecuted for a breach of health and safety law, and it is proved that you did not follow the relevant provisions of the ACoP, you will need to show that you have complied with the law in some other way or the court will find you at fault.

Background

The presence of asbestos in workplaces, buildings and structures

1. Asbestos is the name given to a group of naturally occurring fibrous forms of mineral silicates which form part of the amphibole and serpentine groups. The most significant types include crocidolite, amosite, and chrysotile, commonly described as blue, brown and white asbestos respectively, although they cannot be identified by colour or appearance to the naked eye alone.

2. For the avoidance of doubt, in this ACoP, asbestos refers to any of the following fibrous silicates, and includes combination of:
 - (a) asbestos actinolite, CAS No 77536-66-4;
 - (b) asbestos grunerite (amosite), CAS No 12172-73-5;
 - (c) asbestos anthophyllite, CAS No 77536-67-5;
 - (d) chrysotile, CAS No 12001-29-5 or CAS No 132207-32-0;
 - (e) crocidolite, CAS No 12001-28-4; and
 - (f) asbestos tremolite, CAS No 77536-68-6,and reference to “CAS” followed by a numerical sequence are references to CAS Registry Numbers assigned to chemicals by the Chemical Abstracts Service, a division of the American Chemical Society;

3. Asbestos is mined and broken down into groups of loose fibres which are used in varying quantities in the manufactures of a wide variety of products. The presence of asbestos fibres within these finished articles may not be obvious.

4. Asbestos containing materials (ACMs) were widely used throughout the world in buildings and structures as construction materials, and for a number of purposes including fireproofing, thermal insulation, electrical insulation, sound insulation, decorative plasters, roofing products, flooring products, heat resistant materials and gaskets. The appendix contains further examples.

5. In the 1960s and 1970s annual imports into the United Kingdom peaked at over 150,000 tonnes a year. In 1985, the use of any new materials containing crocidolite and amosite asbestos was prohibited. Other amphiboles were prohibited in 1992, with chrysotile following in 1999. The Use of all ACMs was banned by 2000 (except for some very high performance

materials). The use, re-use, import, sale and export of all forms of asbestos is now banned across 60 Countries, including the European Union, Australia, Japan and significant restrictions apply in the USA and Canada.

6. In Guernsey significant ACMs were imported in the last century for use in the construction of buildings and structures. Because of the extensive uses of ACMs considerable amounts still remain which, **so long as they are maintained in good condition and are not disturbed, do not present a significant risk to health.**
7. However, when ACMs are damaged, asbestos fibres may be released into the air resulting in a risk to human health when people breathe in the fibres. For example, drilling holes with power tools, sawing or sanding materials. If the ACMs are in a poor condition, simply working near to them may result in a disturbance.

The hazards to health from asbestos

8. The health hazards caused by asbestos are due to the minerals' physical and chemical properties. Unlike many fibrous materials, bulk asbestos will fracture along its length which, as it is crushed into a finer form results in the fibres having a greater ratio of length to diameter. The main amphibole (blue and brown) asbestos fibres are relatively straight, whereas the serpentine (white) asbestos adopts a curl. These fibres can be extremely fine - with a diameter around 1% of the thickness of a sheet of paper.
9. Because of their properties and the health effects described below, all forms of asbestos are classified by the World Health Organisation (International Agency for Research on Cancer) as a Group 1 carcinogens.





Figure 1- amosite (Brown asbestos) under SEM.

Red line is 10µm long. (1cm =10,000µm)

10. The following diseases are associated with exposure to asbestos:

Pleural effusion. This is the most common disorder in the earlier years of exposure, and consists of an accumulation of fluid in the pleural lining of the lungs. All types of asbestos can cause effusions.

Pleural plaques. These form the outer later of the pleura and are collections of fibrous tissues. They occur after occupational or environmental exposure. The plaques are an indication that a person has been exposed to asbestos, and thus their presence may precede more serious life threatening conditions.

Asbestosis. Asbestos fibres penetrate deep into the lung and can cause scarring of the lung tissue, which hinders the transfer of oxygen and carbon dioxide between the blood stream and lungs, causing breathlessness. There is evidence that asbestosis develops more quickly the greater the level of exposure, and that smoking will increase the potential for fibres to cause the condition scarring.

Lung cancer (bronchial carcinoma). It is not possible to differentiate a cancer of the bronchi as caused by asbestos from one caused by smoking or any other possible agent. Crocidolite and amosite are considered to be between 10 and 50 times more potent at causing this type of cancer. Smoking is estimated to further increase the risk of asbestos related cancer by as much as 15 times.

Mesothelioma. This is a malignant tumour of the pleura or of the peritoneum. There may be a latency period of up to 40 years, although as short a span as 15 years has also been reported.

Thus the younger the person when exposed, the greater the risk of the disease developing at a given older age. Patients usually die within 12 months of the disease being diagnosed. It is thought that even a relatively light exposure can cause mesothelioma. Crocidolite is thought the most likely form of asbestos for causing the disease, being about 5 times more potent than amosite, and 500 times more potent than chrysotile. Smoking is not known to increase the potential for developing the disease.

11. Statistics produced by the UK HSE estimate that there are more than 4,000 deaths each year from occupationally acquired asbestos diseases. In Guernsey, we only have the figures for deaths where mesothelioma is stated as the primary cause of death, but unfortunately, these *alone* still account for around 2-3 deaths a year; this would indicate that asbestos related deaths account for over 10 deaths per year in Guernsey. Due to the latency between exposure, and disease development, the incidence rates are predicted to increase to a peak around 2016.
12. The risks associated with asbestos are such that it is not possible to state that there is a “safe” level of exposure, though it is clear that the risk will increase for an individual as their personal exposure increases. Although it is suggested that exposure to crocidolite and amosite is more hazardous than chrysotile, **exposure to all forms of asbestos is dangerous, there is no ‘safe’ level.**
13. HSE research in the UK identified that the largest group of workers at risk from asbestos exposure were building workers, especially those involved in demolition, maintenance, repair and refurbishment and workers such as plumbers, electricians, joiners, computer and telecommunication engineers, people who may encounter asbestos during their normal day to day work. This research also estimated that every week 8 joiners, 6 electricians, 4 plumbers and 20 other tradesmen die from asbestos related diseases in the UK.

PART ONE

General principles for the control of asbestos

General prohibitions of asbestos

14. The import, use, re-use, sale and export of any asbestos and any asbestos containing materials is prohibited, except for the removal, remediation and disposal as waste of asbestos and asbestos containing materials in the manner described in this Approved Code of Practice, and under relevant Environmental Protection Laws or Licences.

General principles for the control of asbestos

15. In order to properly control asbestos in the workplace, the following **General Principles for the Control of Asbestos** must be applied:
 - a) **Identification** of asbestos and asbestos containing materials;
 - b) **Assessment of the risks** to the health and safety of the workers and members of the public;
 - c) **Management** of the asbestos and asbestos containing materials, including the buildings, structures and equipment that contain them;
 - d) **Planning and organising** of all work with, or likely to disturb asbestos or asbestos containing materials;
 - e) **Prevention or reduction of exposure** to asbestos fibres to the lowest reasonably practicable level and in any event below the control limit of 0.1 fibre per millilitre;
 - f) **Prevention or reduction of the spread** of asbestos fibres from asbestos and asbestos containing materials from loose asbestos or damaged asbestos containing material and during the removal of asbestos and asbestos containing materials;
 - g) **Provision of training**, information, instruction and supervision of workers at risk of exposure;
 - h) **Provision of health surveillance** to workers exposed to or liable to be affected by asbestos fibres;
 - i) **Monitoring** at regular intervals of existing arrangements and management systems used for the control of asbestos; and
 - j) **Reviewing** such systems where appropriate.

Part 2 of this Approved Code of Practice covers the requirements for the identification, assessment and management of asbestos in buildings and structures.

Parts 3 and 4 cover the requirements for the prevention/reduction of exposure, the prevention/reduction of spread and provision of information and training in specific activities involving asbestos containing materials.

In other situations where asbestos may be encountered, the same General Principles for the Control of Asbestos must be followed.

General principles: assessing the risk

16. When assessing the risk posed by asbestos and ACMs, the UK guidance “Five Steps to Risk Assessment” provides a sensible framework.
 - a) Identify the hazards
 - b) Decide who might be harmed and how
 - c) Evaluate the risks and decide on precaution
 - d) Record your findings and implement them
 - e) Review your assessment and update if necessary

17. Identifying the hazards is based on the asbestos survey described in Part 2 of this ACoP. The key is to locate the ACMs and their condition. In many circumstances, where the materials are in good condition and no work activities are planned on the ACMs, suitable signage of the ACMs and inclusion in the asbestos register will be sufficient. See Part 2 for further details.

18. Groups of workers who may be at particular risk from exposure to asbestos at work include:
 - Those involved in building maintenance, repair, refurbishment or installation work, such as plumbers, carpenters and electricians who may disturb ACMs within the building or structure.
 - Demolition workers carrying out the demolition or partial demolition of buildings and structures containing ACMs.
 - Persons working near, but not in contact with ACMs which are degrading or are being disturbed.
 - Asbestos analysts and surveyors.
 - Persons carrying out the encapsulation or removal of ACMs.

- Waste operatives.

19. In order to quantify the risk of exposure to asbestos fibres, table 1 provides a list of typical fibre levels released by activities. The control limit is 0.1f/cm³ (0.1f/ml).

	Practice	Fibre concentration
Asbestos lagging/flock	Sweeping dry asbestos lagging debris	>20 fibres/ cm ³
	Disturbing loose asbestos flock/lagging	>50fibres/ cm ³
	Walking through enclosed area with dry loose asbestos debris on the floor	>5 fibres/ cm ³
	Accidental small damage to lagging	3-5 fibres/ cm ³
Asbestos Insulation Boards	Careful removal of whole asbestos insulation boards (unscrewing with shadow vacuuming with spray application of a wetting agent on unsealed surfaces)	Up to 3 fibres/ cm ³
	Careful removal of whole boards (no LEV, no wetting)	3 - 5 fibres/ cm ³
	Breaking and ripping out boards (dry with no unscrewing)	5 - 20 fibres/cm ³
	Drilling boards overhead (No LEV)	5 -10 fibres/cm ³
	Drilling vertical columns (No LEV)	2 - 5 fibres/cm ³
	Jig sawing asbestos insulation board (No LEV)	5 - 20 fibres/ cm ³
	Jig sawing asbestos insulation board (LEV)	1 – 5 fibres/ cm ³
	Hand sawing asbestos insulation board (No LEV)	5 - 10 fibres/ cm ³
	Rough handling	> 15 fibres/ cm ³
	Scribing and breaking asbestos insulation board	1- 5 fibres/ cm ³
	Accidental small damage	0.5 fibres/ cm ³
	Cement Pipes and Sheets	Abrasive disc cutting without LEV
Circular saw cutting without LEV		10-20 fibres/ cm ³
Jig saw cutting without LEV		2-10 fibres/ cm ³
Machine sawing with LEV		< 2 fibres/ cm ³
Reciprocating saw		< 1 fibres/ cm ³
Hand sawing		< 1 fibres/ cm ³
Machine drilling		< 1 fibres/ cm ³
Removal of asbestos cement sheeting		< 0.5 fibres/ cm ³
Stacking of asbestos cement		< 0.5 fibres/ cm ³
Cleaning of asbestos cement- dry wire brushing		3-5 fibres/ cm ³
Cleaning of asbestos cement- wet wire brushing		1-3 fibres/ cm ³
Water jetting		0-0.5 fibres/ cm ³

Table 1 – Typical asbestos fibre concentrations from work activities

20. Precautions will typically require the use of a safe system of work, enclosing of the work area, Local Exhaust Ventilation (LEV), Respiratory Protective Equipment (RPE), Personal Protective Equipment (PPE) or a combination of such measures to reduce both the concentration of fibres released and the exposure.

General principles: planning and organising the work

21. Certain types of work with asbestos and ACMs will need to be notified to the Health and Safety Executive 14 days prior to work starting. The Notification form and the Plan of Work must be submitted at that time.

22. Work with asbestos must be notified unless:
 - (a) it is clear from the risk assessment that the exposure to asbestos of any employee will not exceed the control limit; and
 - (b) the work involves—
 - (i) short, non-continuous maintenance activities in which only non-friable materials are handled, or
 - (ii) removal without deterioration of non-degraded materials in which the asbestos fibres are firmly linked in a matrix, or
 - (iii) encapsulation or sealing of asbestos-containing materials which are in good condition, or
 - (iv) air monitoring and control, and the collection and analysis of samples to ascertain whether a specific material contains asbestos.

23. Exposure to asbestos can be controlled by adequately planning and organising any work with asbestos and ACMs. To achieve the safe removal of ACMs, the following measures should be considered to avoid asbestos fibres becoming airborne:
 - Making sure that any asbestos or ACMs are identified;
 - Assessing the type of asbestos and its condition;
 - Sealing and preventing access to areas where fibres may be present;
 - Treating the material so that fibres will not become airborne;
 - Removing the material using safe methods if it cannot be left undisturbed;
 - Adopting safe systems of work where asbestos has to be disturbed;
 - Employing only competent persons to work on the material;
 - Communicating the necessary information to those who may have to work near the material;
 - Training persons in the risks involved and the precautions to be followed;
 - The use of appropriate personal protective equipment, where necessary to reduce the levels of asbestos to which persons are exposed.

These are expanded on in Parts 2-4 of this guidance

General principles: prevention or reduction of exposure to asbestos fibre

24. Exposure to asbestos fibres, must be, so far as is reasonably practicable, prevented.
25. If exposure to asbestos fibre is unavoidable, a suitable and sufficient assessment of the risks created by the likely exposure must be carried out. In any event, the exposure must be kept as low as is reasonably practicable by measures other than the sole use of respiratory protective equipment (RPE). Where it is not reasonably practicable to reduce the exposure below the control limit (paragraph 13 below) by these measures alone, appropriate respiratory protective equipment must be used in addition to taking these measures to ensure the control limit is not exceeded.
26. Exposure to asbestos must either be prevented or reduced to the **lowest level that is reasonably practicable**. In Guernsey, the HSE apply the same limits as the United Kingdom Control of Asbestos Regulations, 2012:
the **control limit is 0.1 fibres per cm³** (or 0.1 f/ml) for all types of asbestos. A control limit is a maximum concentration of fibres in air (averaged over a continuous 4 hour period). This must not be exceeded and any exposure must still be reduced to the lowest level reasonably practicable.
27. Additionally, short term exposure must also be strictly controlled and worker exposure must not exceed 0.6 fibres per cm³ over any 10 minutes period, whilst using RPE if there is no other way to sufficiently reduce exposure.
28. Using standard current methodology, as described in *HSG 248. "Asbestos: The analysts guide for sampling analysis and clearance procedures"*, the lowest airborne respirable asbestos concentration that can be measured is 0.01 fibres/cm³.
29. Therefore it is considered reasonably practicable to clean the working area after disturbances of ACMs thoroughly enough for the respirable airborne fibre concentration after the final cleaning to be below this limit. The figure of **0.01 fibres/cm** is thus taken as **the clearance indicator threshold** and an area will not normally be regarded as fit for reoccupation until asbestos in air measurements are below this level.

General principles: prevention or reduction of the spread of asbestos fibres

30. The spread of asbestos fibres must be prevented, or, where it is not reasonably practicable, adequately reduced.
31. Asbestos containing materials in good conditions will not pose a significant risk of spread of asbestos fibres, but damaged materials should be assessed and where appropriate removed or otherwise rendered incapable of releasing fibres, through sealing or encapsulation for example.
32. Where this is not reasonably practicable, workers or the public may need to be excluded from the area containing the asbestos until suitable precautions are in place, or the materials have been removed.
33. All work on or removal of asbestos and ACMs must be carried out in such manner as to reduce the spread of asbestos fibres. Precautions will typically require the use of a safe system of work, controlled work techniques (wetting and shadow vacuuming for example), enclosing of the work area, air extraction or Local Exhaust Ventilation (LEV), reassurance air monitoring or a combination of such measures to reduce the concentration of fibres released.

General principles: training of operatives, providing information

34. Every employer must ensure that adequate information, instruction and training is given to all employees who are, or are liable to be, exposed to asbestos, or who supervise such employees. The self-employed should also have a similar level of knowledge and competence.
35. Asbestos awareness training should be provided for all persons whose work could foreseeably expose them to asbestos whilst carrying out their normal day-to-day work. In particular it should be given to all demolition workers and those workers in refurbishment, maintenance and allied trades where it is foreseeable that their work will disturb the fabric of the building.
36. Training should at least cover:
 - Properties of asbestos and its effects on health, including the further increased risk of lung cancer for those who smoke;
 - Types, uses and likely occurrence of asbestos and ACMs in buildings and plant

- General procedures to be followed to deal with an emergency, e.g inadvertent damage to an ACM
 - How to avoid the risks from asbestos, including the importance of checking that an appropriate asbestos survey for the specific workplace has been carried out and any ACMs identified and properly managed.
37. Detailed guidance on the provision of appropriate information, instruction and training is provided in the HSE publication *“Work with materials containing asbestos: Control of Asbestos Regulations 2006: Approved Code of Practice and guidance, L143”*
38. Additional training should be provided for persons who knowingly disturb the type of ACMs covered in Part 4 of this ACoP (i.e. “non-notifiable” materials in the UK). This may include a roofer or demolition operative removing asbestos cement sheets, asbestos surveyors or those who carry out asbestos sampling and analysis. Further guidance on the provision of training for such workers is provided in Part Four.
39. Specialist training is required for employees involved in works with asbestos insulation, asbestos insulation board and asbestos coatings as covered in Part 3 of this ACoP.
40. There are also specific training requirements for analytical staff and asbestos surveyors. This is covered in more detail in *Asbestos: The analysts' guide for sampling, analysis and clearance procedures HSG248*.
41. It is important to remember that not all ACMs that are found have to be removed. Provided there is no likelihood of asbestos fibres being released, it may be better to introduce controls to ensure the ACM is not disturbed. Such controls may include identification, labelling and also making people aware of the presence of ACM.

General principles: health surveillance

42. Where appropriate, health surveillance should be provided. Where exposure to asbestos fibres has previously occurred or is suspected, monitoring of the lung function should take place at a maximum interval of 5 years. There are specific arrangements for operatives undertaking asbestos removal, see Part 3 for further details.

General principles: monitoring and reviewing

43. Arrangements to control asbestos should be continuously monitored and reviewed at least every 12 months to ensure that the management processes remain effective and the arrangements are being properly implemented.

44. Any changes in the arrangements or circumstances affecting the management of asbestos, staff changes or the deterioration or removal of ACMs should trigger a review.

PART TWO

The Asbestos Management Plan

Responsibilities

45. An essential step in the process of managing the exposure to asbestos in non- domestic buildings and structures is to put in place an asbestos management plan, which aims to record the presence of ACMs and the manner in which exposure to asbestos fibres is managed, both during normal operations and in the event that work may disturb ACMs is planned.
46. The prime duty for carrying out this function is placed upon employers or the self-employed when they have responsibility for the maintenance and repair of premises which they occupy. Where others, such as the building owner, managing agent or landlord have responsibility for all or part of the premises, they also have duties to ensure that the asbestos register is prepared in respect of the areas under their control.
47. The asbestos management plan should be prepared with full consultation, involvement and information sharing between all parties having responsibility for the workplace and be communicated to all employees or self employed persons, including contractors and maintenance workers, who use the premises as a workplace. This plan must be readily available at all times.

Domestic premises during maintenance, refurbishment or construction work

48. Domestic premises owned by domestic clients (owner occupiers) do not need an asbestos management plan. Where construction work, refurbishment or demolition, or any intrusive work is carried out, the main contractor or employer must undertake a suitable and sufficient assessment of the risks from asbestos the areas to be disturbed. This could be in the form of a Refurbishment / Demolition Survey or, in the case of *very minor work*, an assessment of the materials and limited sampling for the identification of asbestos. In all cases, they must follow the General Principles for the Control of Asbestos.
49. Where premises are let, rented or otherwise provided by a landlord or in the course of any business, it is the landlord's responsibility to manage the asbestos in line with the General

Principles for the Control of Asbestos. For the avoidance of doubt, the full extent of this ACoP applies to rented and leased dwellings used for domestic purposes, boarding houses, lodgings, hotels, bed and breakfast accommodation, guest houses and self-catering seasonal accommodation, but not to owner occupier of domestic dwellings.

Preparation of the asbestos register

50. Because of the widespread use of ACMs, asbestos is likely to be present in many workplace buildings or structures. *Examples of typical uses of ACMs are contained in the Appendix.* Any decision reached that there are no ACMs present in a workplace building or structure must be capable of being justified by adequate evidence. It is considered reasonable to assume that any building built after 2000 is unlikely to contain asbestos.

51. The asbestos register should be made available, on request, to the emergency services, in particular the States of Guernsey Fire and Rescue Service, so that they can take the appropriate precautions in the event of an emergency. You may wish to consider keeping a copy of the register next to the fire alarm panel. Consideration should also be given to storing a copy of the asbestos management plan off site.

52. The asbestos management plan (see Figure 2) should include an asbestos register. The register should include:
 - The identification of asbestos containing materials that may be on site;
 - An assessment of risk from any such asbestos containing materials;
 - Identification of measures required to be carried out to ensure that any risks from exposure to asbestos containing materials are controlled;
 - Arrangements for dealing with any accidents, incidents and emergencies;
 - Arrangements for monitoring and reviewing the effectiveness of the asbestos management plan.

53. There is also a responsibility on employers and the self employed, when working on any building or structure, to ensure that both the individuals carrying out the work, and others, are not exposed to the release of asbestos fibre from ACMs. Prior to undertaking any work where there is a risk of working on or with ACMs, they should ascertain from the person having responsibility for the premises whether there are any ACMs in the building or structure, and ask to see the asbestos register in particular.

54. If no asbestos management plan is in place, or no asbestos register provided, work must not be carried out until an appropriate survey of the relevant areas has been undertaken

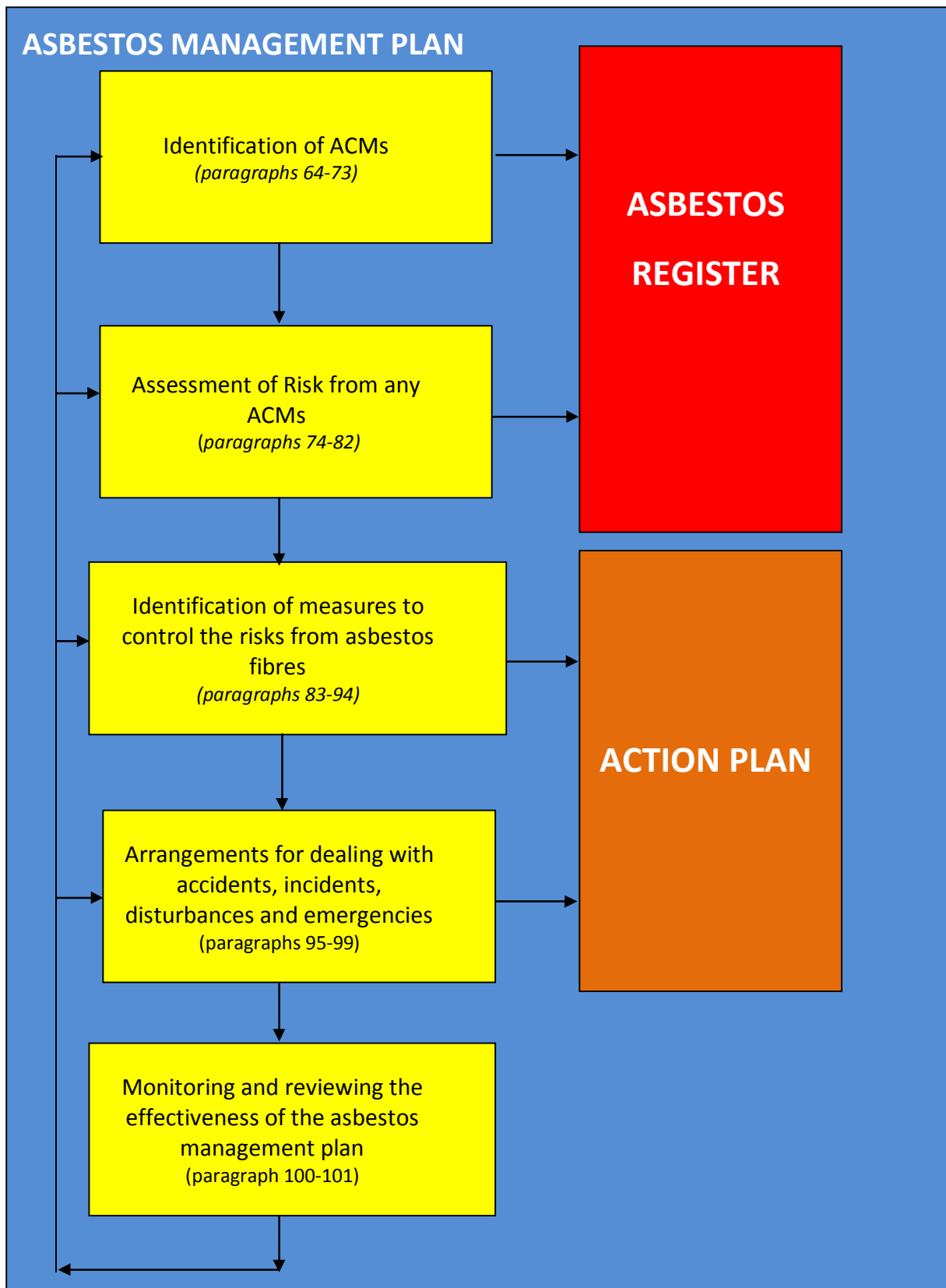


Figure 2- Asbestos Management Plan Flow Chart

57. It is essential that the person undertaking the survey is competent to undertake the task. The HSE publication *Asbestos: The Survey Guide HSG264*, provides guidance to those carrying out surveys, and contains useful information for persons who commission surveys.
58. The surveyor can be an individual or an organisation and surveys may be carried out in-house or by third party surveyors. Before employing anyone to undertake a survey, you must check that the person or organisation you employ is:
- competent to undertake the type of survey you request;
 - can demonstrate independence, impartiality and integrity;
 - have an adequate quality management system;
 - carrying out surveys in accordance with HSG264 - Asbestos: The survey guide.
59. The person or persons responsible for surveying the premises have to use a high level of subjective assessment and need the time to carry out the survey; a competent surveyor will be able to demonstrate adequate **knowledge, training and experience**.
60. Individuals may demonstrate they have adequate levels of training through having personal proficiency for asbestos surveys from the British Occupational Hygiene Society (BOHS) P402, Building Surveys and Bulk Sampling for Asbestos.
61. The procedures used for conducting the survey, assessing and documenting the findings must be clearly recorded. Organisations should be able to demonstrate they have a quality management system for their asbestos surveying.
62. Some organisations who offer to undertake asbestos surveys are independently accredited by UKAS as complying with BS EN ISO 17020 to undertake surveys for ACMs. Accreditation provides assurance that an organisation employs competent individuals and that there is a quality system within which those individuals are required to work. Information on UKAS accredited organisations is available on the internet at www.ukas.com.
63. The asbestos register should be kept for the life of the building.

Types of asbestos surveys

64. Comprehensive details on asbestos surveys, including methodology, coverage and reporting are covered in Asbestos: The Survey Guide, HSG 264.
65. For the purposes of managing the exposure to asbestos in accordance with Part Two of this ACoP, there are two different types of asbestos survey: a Management" survey and a "Demolition/refurbishment" survey .
66. The duty-holder, building owner, employer and surveyor need to be clear on the type of survey needed, where the survey is needed, and what records should result.
67. **Management survey**

The Management Survey is required to manage ACM during the normal occupation and use of premises. The duty-holder can make a Management Survey where the premises are simple and straightforward. Otherwise, a surveyor is needed.

A Management Survey aims to ensure that:

- a) nobody is harmed by the continuing presence of ACM in the premises or equipment;
- b) that the ACM remain in good condition; and
- c) that nobody disturbs it accidentally

The Survey must locate ACM that could be damaged or disturbed by normal activities, by foreseeable maintenance, or by installing new equipment. It involves minor intrusion and minor asbestos disturbance to make a Materials Assessment. This shows the ability of ACM, if disturbed, to release fibres into the air. It guides the client, eg in prioritising any remedial work.

68. All areas should be assessed and inspected as far as reasonably practicable. This includes under carpets, above false ceilings and inside risers, service ducts, lift shafts etc. It may involve minor intrusive work. The degree of disturbance will depend on the extent of intrusion that is, or will be, necessary for normal maintenance activities. The areas to be sampled inside buildings should normally be unoccupied during sampling.
69. All non-domestic buildings normally require a management survey as part of the on-going arrangements to manage asbestos, and to assist with the preparation of the asbestos register.

70. Refurbishment / demolition survey

The Refurbishment / Demolition Survey is required where the premises, or part of it, need upgrading, refurbishment or demolition. The Survey does not need a record of the ACM condition. Normally, a surveyor is needed for Refurbishment / Demolition Surveys.

A Refurbishment / Demolition Survey aims to ensure that:

- a) nobody will be harmed by work on ACM in the premises or equipment;
- b) such work will be done by the right contractor in the right way

The Survey must locate and identify all ACM before any structural work begins at a stated location or on stated equipment at the premises. It involves destructive inspection and asbestos disturbance. The area surveyed must be vacated and certified 'fit for reoccupation' after the survey.

71. As aggressive inspection techniques will be needed to break through walls, ceilings, claddings and partitions, demolition and refurbishment surveys should only be conducted in unoccupied premises to minimise the risks to persons on the premises. Ideally the building should not be in service and all furniture and furnishings removed.
72. In the event that only certain parts of a building are to be upgraded, refurbished or demolished, only the areas affected need to be subjected to the intrusive demolition/refurbishment survey. In such instances, effective segregation of the survey area must be provided (e.g., full floor-ceiling partition). Under no circumstances should people other than the surveyors involved in the work remain in the rooms or areas of buildings when intrusive sampling is performed.
73. Any sampling of materials carried out for the purposes of identification must have suitable precautions in place to control the risks from exposure to asbestos during the sampling process, as specified in Asbestos: The Survey guide, HSG264.

Assessment of risk from any ACMs

74. The person having responsibility for the maintenance or repair of the workplace building or structure must carry out a suitable and sufficient assessment of the risks posed by the presence of any ACMs.

75. The management survey report, therefore, has to provide sufficient information to enable an asbestos register to be prepared and for an assessment of the risks posed by the presence of any ACMs to be carried out. For any presumed or known ACMs this will include:
- The location, extent and product type (e.g., cement, board, lagging etc);
 - The accessibility, condition and surface treatment of the materials, and their ability to release fibres into the air should they be disturbed in some way;
 - The type of asbestos (e.g.,crocidolite, amosite or chrysotile).
76. The risk assessment must evaluate the risk to persons posed by each area of ACM. In addition to the factors listed above, consideration will need to be given to the foreseeable types of maintenance or other disturbances which may take place.
77. ACMs which:
- Have already deteriorated or been damaged;
 - Are likely to be disturbed in the course of planned work;
 - Are very accessible and likely to be disturbed or damaged in normal use;
 - May be damaged by vandalism;
- will present a greater risk, and must be given high priority for action e.g., repair, seal, enclose or remove.
78. Each separate location and type of presumed or known ACM will need to be assessed individually. This will establish which of these are most likely to potentially release high airborne levels of fibres, and should be taken into account when determining what remedial action is required, and which materials should have the highest priority for action (repair, sealing, removal or leaving in place and monitoring the condition).
79. The most significant risk will be from asbestos in areas where maintenance or reorganisation is needed regularly, particularly if those areas are subject to heavy use during the normal working day; or where there is asbestos which is liable to damage (for example, where it might be hit by forklift trucks or heavy trolleys, or maintenance of air conditioning and heating systems will disturb it). The risk will be greater still if the ACM is in a confined space and/or an unventilated area. Remember that the potential for disturbance must be considered. For example, a maintenance worker using power tools

close to an ACM could disturb it. Asbestos in a very poor condition might be disturbed simply by somebody just walking past. There is unlikely to be any significant risk from ACMs in areas that are unoccupied, inaccessible, and not likely to be disturbed by maintenance activities.

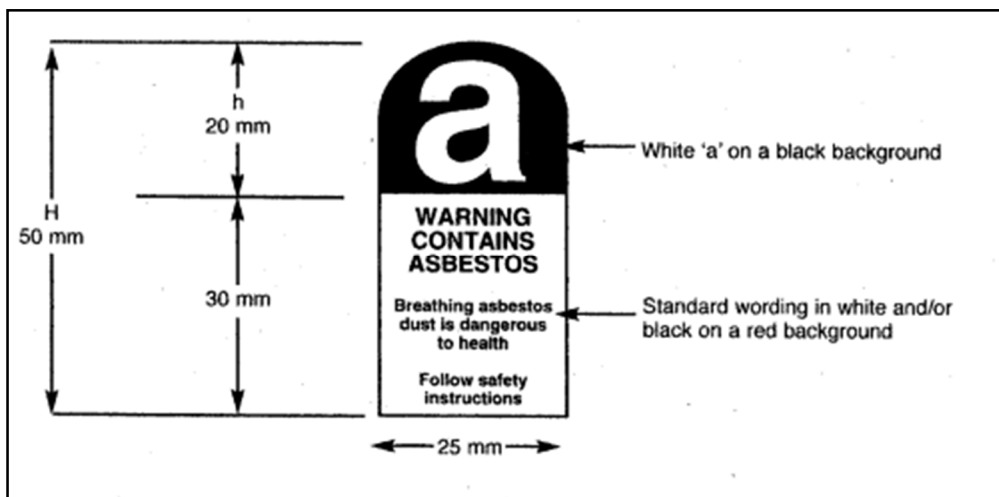
80. Even when ACMs are in parts of the premises where people regularly work they will not present a high risk to health provided that: the ACM is in good condition and fibres cannot escape into the air; it is not prone to accidental damage; and there is a system in place to prevent anyone from working on it without proper protection. Where it is considered that there may be a risk of asbestos fibres being released, appropriate action must be taken to control the risks.
81. Further guidance on the assessment and management of asbestos in buildings is contained within the HSE publication '*A comprehensive guide to managing asbestos in premises*' HSG227.
82. It should be noted that the assessment of risk of any ACMs identified during a demolition/refurbishment survey is not required, as all such ACMs will have to be removed prior to the work commencing.

Identification of measures required to control the risks from asbestos fibres

83. The next stage in the preparation of the asbestos management plan is to decide on the manner in which the risk of exposure to asbestos fibre is going to be controlled. The proposed actions, and the justification for their selection, must be recorded in the asbestos management plan as an Action Plan.
84. Possible actions may include:
 - Leaving the ACMs in place and monitoring their condition;
 - Encapsulation of the ACM to reduce the likelihood of fibre release;
 - Removal of the ACM.
85. Although asbestos is a hazardous material, ***it can only pose a risk to health if the asbestos fibres become airborne and are then inhaled***. ACMs only release fibres into the air when they are disturbed, which may happen because of accidental or deliberate damage or

disturbance. If the ACMs are in good condition and are unlikely to be damaged or disturbed, then it may be better to leave them in place and to introduce a monitoring regime.

86. When ACMs are in places where they will be prone to damage, a monitoring regime is unlikely to be sufficient. There are also instances where ACMs will have to be removed despite them being in good condition, for example prior to demolition, major building work or planned maintenance which is likely to disturb them.
87. ACMs which are only slightly damaged may be able to be repaired, encapsulated or enclosed. These options are worth considering if no major alterations or refurbishment to that area of the premises is planned.
88. ACMs in poor condition, that is where the material's exposed surface has substantial areas of visibly loose fibres that may be released by very slight disturbance, or any material which has suffered significant damage or deterioration, will usually need to be removed.
89. Where it is decided to leave ACMs in place, including those which have been sealed and/or repaired, they should be clearly identified, for example with suitable asbestos warning signs, see Figure 3 (except where this may cause undue alarm, such as in public places).



90.

Figure 3- Asbestos Warning Sign

Arrangements must also be made to carry out inspections at regular intervals to ensure that the condition of the ACM does not deteriorate, and/or that there has not been an increase in the potential risk to persons of exposure to asbestos fibres due to, for example, a change of use of an area. A record of all such inspections should be maintained and

signed off by a competent person. Comparing photographs taken at each inspection can be a useful way of monitoring the condition of ACMs over time.

91. The time period between monitoring will vary depending upon the type of ACM, its location and the activities in the area concerned, but would not be expected to be more than annually in most cases. ACMs in locations where there is a lot of activity will need more frequent monitoring. The surveyor may make recommendations in this respect.
92. Decisions about what to do in order to manage the risk from each area of ACMs in the premises must be recorded in the asbestos management plan, and any records/ drawings must be kept up to date. For example, if a decision is made to remove ACMs, once this is done the management plan and any relevant drawings/records must be updated.
93. Most work carried out on asbestos insulation, asbestos insulation board and asbestos coatings, may only be carried out as per Section 3 of this ACoP.
94. Work on other ACMs, covered in Section 4 of the ACoP must be carried out by trained and competent operatives.

Arrangements to deal with accidents, incidents and emergencies

95. Employers and others with responsibilities under this ACoP should have emergency procedures in place for any accident, incident or emergency relating to asbestos; for example, accidental disturbance of ACMs during building work, unless the amount of asbestos in the premises is so small that any risk would be minimal. These procedures should be contained in the asbestos management plan, and include the steps to be taken to minimise the risks of exposure to asbestos and measures in place to carry out emergency repairs.
96. In any circumstance where there is an accidental uncontrolled release of asbestos into the workplace, the cause of the uncontrolled release should be identified and adequate control regained as soon as possible.
97. Any persons in the affected area must leave immediately. All tools and materials should be left in the potentially contaminated area. The area should be sealed to prevent further access and to prevent the spread of asbestos fibre to other areas. Where persons have

been contaminated with visible dust or debris then arrangements should be made to decontaminate those affected. Any clothing or personal protective equipment should be decontaminated or disposed of as contaminated waste.

98. Appropriate arrangements must be in place to ensure that the extent of the contamination is assessed by a competent person and the area that may have been contaminated by asbestos fibres is thoroughly cleaned of visible debris or dust. This work should only be carried out by operatives or contractors who have been trained and are competent to carry out the work, and who have the appropriate equipment. In the case of a significant disturbance of asbestos insulation or asbestos insulation board, this will almost certainly require the use of an approved asbestos contractor. Air sampling should also be carried out, where it is necessary, to ensure that the remedial measures taken have been effective in reducing the potential for exposure to asbestos fibres.
99. If an employee has been potentially exposed to asbestos fibres in an incident, a note that the exposure has occurred should be added to the employee's personal record. A copy of the note must be given to the employee with instructions that it should be kept indefinitely. It is also recommended that they consult their GP to have a note of their possible exposure made on their personal medical record, which should include date(s), duration, type of fibre and likely exposure levels (if known).

Monitoring and reviewing the effectiveness of the Asbestos Management Plan

100. The management plan should be reviewed at least every 12 months to ensure that the management processes remain effective and the arrangements are being properly implemented.
101. Any changes in the arrangements or circumstances affecting the management of exposure to asbestos, such as new staff having responsibility for implementing the arrangements, or the deterioration or removal of ACMs, must be recorded and the asbestos register updated accordingly.



Figure 3 – Typical asbestos removal enclosure

PART THREE

Notifiable work on Asbestos Containing Materials

102. In view of the serious risks to health caused by exposure to asbestos fibres when working on, or in the event of disturbing ACMs, most work with ACMs, which can lead to the high release of asbestos fibres, is restricted to specialist asbestos removal contractors.
103. Part 3 is concerned with certain types of work with asbestos and ACMs, which will need to be notified to the Health and Safety Executive 14 days prior to work starting. The Notification Form and the Plan of Work must be submitted at that time.
104. Work with asbestos must be notified unless:
- (a) it is clear from the risk assessment that the exposure to asbestos of any employee will not exceed the control limit; and
 - (b) the work involves—
 - (i) short, non-continuous maintenance activities in which only non-friable materials are handled, or
 - (ii) removal without deterioration of non-degraded materials in which the asbestos fibres are firmly linked in a matrix, or
 - (iii) encapsulation or sealing of asbestos-containing materials which are in good condition, or
 - (iv) air monitoring and control, and the collection and analysis of samples to ascertain whether a specific material contains asbestos.
105. The guidance in Part 3 of this Approved Code of Practice will mainly apply to work with ACMs that would be considered “notifiable and licensable” under the UK’s “Control of Asbestos Regulations, 2012” , and applies to the vast majority of cases of work with asbestos, including;
- *asbestos insulation*
 - *asbestos insulation board*
 - *asbestos coatings (except textured, decorative coatings)*
 - *asbestos material used for thermal or acoustic purposes (except asbestos cement or articles of bitumen, plastic or resin)*
106. This includes work carried out in a supervisory or ancillary capacity. Supervisory work is taken to mean where there is direct control or influence over the work. Ancillary

work is work that is associated with the main task of work with ACMs, (such as erection and dismantling of enclosures and scaffolding, cleaning structure, plant and equipment inside the enclosure etc).

107. Those undertaking the above work must be able to prove to the HSE that they have adequate knowledge, experience and arrangements to carry out the work safely, without risk to the health and safety of persons who work with the ACMs or others who may be affected by the work. They must also display an adequate knowledge of all types of ACMs that they are likely to encounter, and appreciate the limitations of work which they can perform; they must know how to cope with situations where they encounter materials which they do not have the expertise to deal with.
108. All those undertaking work of this nature must also be able to demonstrate a working knowledge of current Guernsey legislation and guidance relating to health and safety and asbestos, and be familiar with the current UK HSE publications.
109. Where an employer or self employed person already holds a licence issued by the UK HSE, Health and Safety Executive for Northern Ireland or The Minister for Social Security in Jersey, they will be considered as competent to extend their work to The Bailiwick of Guernsey. In such cases any conditions on the licence will also apply to any work carried out in Guernsey.

Plan of work

110. The employer or self-employed person carrying out the work must prepare a detailed Plan of Work (method statement) setting out the system of work for the specific task. This method statement should be submitted to the Guernsey Health and Safety Executive 14 days before work commences.
111. The Plan of Work must incorporate the following;
 - An assessment of the work and details of the measures to be put in place to ensure risks from exposure to asbestos fibres are controlled.
 - A suitable and sufficient written statement of the method of work to be used when asbestos or asbestos containing material is being handled

- A suitable and sufficient written specification of the equipment for the protection and decontamination of those engaged in asbestos work and also for the protection of others.

A summary of the full contents of a method statement is listed on pages 31-32.

Employers must make sure that employees follow the plan of work so far as it is reasonable to do so. If work cannot be carried out in accordance with the original plan of works, it must stop until the risks have been reassessed, and a new method statement drawn up or is amended accordingly.

Personnel Requirements

112. Prior to carrying out work with asbestos insulation, asbestos insulation board and asbestos coatings, the employer must appoint a competent person to supervise the work. In the case of a self employed person, they must ensure that they are competent to supervise the work. The supervisor must ensure that the work is carried out in accordance with the method statement.
113. All operatives who work with asbestos insulation, asbestos insulation board and asbestos coatings must be carefully selected and suitably trained in order for them to be able to carry out their work without exposing themselves or others to asbestos fibres.
114. The core syllabus of the training given to operatives, or in the case of the self employed undertaken by them, should cover the following topics in appropriate detail and in a manner which is capable of being understood by the trainees;
 - Asbestos in buildings
 - Health risks
 - Guernsey legislation and guidance
 - Cleaning and Clearance air testing
 - Methods of working and control of exposure
 - Site inspections and record keeping
 - Respiratory protective equipment
 - Protective clothing, decontamination procedures and hygiene facilities
 - Plant and equipment

- Waste disposal and waste management
- Fault finding
- Emergency procedures
- Presence of other hazards, i.e. work at height, trips etc.

115. In addition to this core knowledge, persons in a supervisory capacity should be provided with training on the following additional topics at an appropriate level and in a manner which is capable of being understood to enable them to carry out their responsibilities for directing, supervising and monitoring all aspects of work on site including:

- Setting up the site
- Correct use of respiratory protective equipment (RPE)
- Records and examination of plant and equipment
- Use of air monitoring equipment to ensure effectiveness of control measures
- Supervision of operatives
- The role of the analyst
- Waste disposal

116. Detailed guidance on training can be found for all employees, supervisors and others working with ACMs in the UK HSE publication, HSG247 “Asbestos: the licensed contractors guide”.

PLAN OF WORK

The following is a summary of the elements which should be considered in a plan of work for removal of asbestos insulation, asbestos insulation board and/or asbestos coating. This list is not intended to be exhaustive, and each job must be considered individually.

SCOPE OF WORK

Name of client.

Name of supervisor.

Full address of site.

Was a survey carried out? If so, by whom and when.

What type of asbestos was found.

What form it is, e.g. sprayed/lagged etc.

Location of asbestos, e.g. roof space.

What quantity is to be removed, e.g. number of bags.

Number of employees engaged on the work including persons working outside any enclosures. (*justification required if less than 3 operatives on site*)

Start date and finish date of work - to include setting up and dismantling of enclosures.

SKETCH PLAN OR DRAWINGS

A clear drawing of the location, size and position of the enclosure, vision panels or CCTV, the ACMs (to be worked on and others), decontamination unit, negative pressure units, Class H vacuum cleaners, injection systems, power and water sources, transit and waste routes.

HYGIENE FACILITIES (Decontamination Unit – DCU)

Description of facilities to be used, e.g. mobile unit complying with HSE publication 'Asbestos: The licensed contractors' guide' HSG247, Appendix 8.1 'Minimum design criteria for asbestos hygiene units'.

Where sited (show on plan), connection to water and power where appropriate.

Designated transit route and justification for transiting (as opposed to direct connection).

WASTE DISPOSAL

Bagging system.

Temporary storage for bags.

Waste routes.

Skip location.

Transportation and final disposal arrangements.

ENCLOSURE OF WORK

Construction of enclosure.

Volume of enclosure.

Location of airlocks.

Additional screening, if required.

Details and locations of viewing panels.

Warning notices.

CONTROL MEASURES

Details of expected exposure levels.

Specification of negative pressure unit(s).

Number of air changes per hour.

Siting of negative pressure units.

Method of smoke testing and witnessing.

Type and specification of respirator (positive pressure type).

Maintenance arrangements for RPE and equipment.

Protective clothing.

Decontamination of employees.

Specification of vacuum cleaner

Examination of controls etc and record keeping

METHOD OF WORK

Wet strip technique to be used.
Additional local exhaust ventilation required.
Tools to be used.
Access equipment.
Clearance of waste.
Additional controls to reduce exposure.

DECONTAMINATION PROCEDURES

Cleaning and vacuuming before leaving enclosure.
Removal of contaminated overalls.
Washing of boots and masks.
Removal of masks.
Disposal of transit and working overalls.

AIR MONITORING

When it will be carried out.
By whom.
Analysis by which laboratory.

FINAL CLEARANCE (and issue of CERTIFICATE OF REOCCUPATION)

Final cleaning arrangements.
Thorough visual examination.
Air monitoring.
Removal of enclosure and disposal.
Final visual.

EMERGENCY PROCEDURES

Fire precautions.
First aid arrangements.
Minor incident procedures.
Major incident procedures.

SITE DOCUMENTATION

Asbestos licence (where applicable).
Risk assessment records.
Training certificates.
Medical certificates.
Face fit certificates.
Equipment maintenance and inspection records (including DOP test certificates for NPU and H type vacuum cleaners).
Record of inspections and tests of enclosures.
Records of air tests of decontamination unit (DCU).
Site Log.

OTHER MATTERS

Supervision of job.
Clients' requirements.
Work on live plant etc.
Heat stress.
Liaison with client/employees.
Special characteristics of site.

Health records and medical surveillance

117. Employers must keep a health record for any employee who undertakes notifiable work. The health record should ideally be kept indefinitely, but in any event for a minimum of 40 years after the last entry made in it or until the employee would reach the age of 80 years, whichever ensures the longer retention time. It should be kept in a safe place and contain **at least** the following information:
- Surname, forenames, sex, date of birth, permanent address, postcode, and Social Security number;
 - A record of the types of work carried out with asbestos and, where relevant, its location, with start and end dates and with average duration of exposure in hours per week, exposure levels and details of any RPE used;
 - A record of any personal monitoring which has been undertaken;
 - A record of any work with asbestos prior to this employment of which the employer has been informed; and
 - Dates of medical examinations.
118. Anyone who undertakes work with the aforementioned ACMs should have been medically examined within the previous two years. Employers will need to obtain certificates of examination for any employees who state that they have been examined within the previous two years. Employers must check with the previous employer or examining doctor that certificates are genuine.
119. Medical examinations must be conducted by a Doctor with suitable occupational medicine experience and knowledge, such as a holder of a Diploma in Occupational Medicine (DOccMed). UK Appointed Doctors (under the Control of Asbestos Regulations 2012) may also carry out the examinations for the purpose of this ACoP.
120. Medical examinations should take place during the employee's normal working hours and be paid for by the employer. Employees should cooperate with their employer in attending medical examinations.
121. Where an employee is diagnosed with a condition related to exposure to asbestos, the employer should review the health of all other employees similarly exposed, as well as reviewing the assessments and methods of work.

122. If the examination reveals the presence of any potentially limiting health conditions then a decision should be made on whether a general fitness assessment is required in addition to the asbestos medical examination.
123. Full guidance on health surveillance for asbestos workers is available from Asbestos:
Medical guidance note MS13

Personal monitoring

124. Personal air monitoring will be necessary to confirm that the RPE chosen will provide the appropriate degree of protection where the level of asbestos fibres in air exceeds, or is liable to exceed, the control limit or a peak level measured over 10 minutes of 0.6 f/cm^3 .
125. Although the air monitoring data should be used to establish employee exposure records, personal monitoring is not required for every job. Sampling data from previous similar jobs can be used to assist with the assessment of expected exposure concentrations. Some data on the likely fibre concentrations for a range of asbestos jobs is also provided in the HSE publication HSG247 '*Asbestos: The Licensed Contractors' guide*'. Where there is any doubt about the expected exposure concentration the exposure must be confirmed by air monitoring.
126. Personal monitoring should be carried out in accordance with the guidance set out in HSE publication HSG248 '*Asbestos: The analysts' guide for sampling, analysis and clearance procedures*'.
127. All results of personal monitoring carried out should be retained on the operative's health record.

Safe working methods

Encapsulation

128. The removal of existing ACMs can itself present the greatest risk of significant exposure to asbestos fibres. In some cases it may not be necessary to remove the ACMs, and the materials can be protected or encapsulated. These processes themselves require proper management as control limits may be exceeded. Encapsulation may require a specialist contractor with an understanding of the techniques to carry out the work, as fibres may be

released. Before considering this option consideration should be given to the following matters:

- The type and condition of the ACM;
- Whether the substrate is sound enough to allow the encapsulation to adhere;
- Whether any water penetration via the substrate will increase the weight on the encapsulation and cause it to fall away from the ACM;
- Whether further damage could occur due to traffic operations, bird or rodent attack or vandalism;
- Whether access is available to allow the process to be effective;
- Whether the encapsulant will ensure the thermal and acoustic attributes of the structure are maintained;
- Whether the approach is simply putting off the day when the asbestos has to be removed at further significant cost.

129. Various types of encapsulation are available, each suitable for particular applications. Each have their particular advantages, be they “boxing in” of the ACM with board materials, or the use of bulk brush or spray applied polymeric or cementitious materials. The correct choice depends on the location and condition of the ACM, its ability to take the weight of any encapsulant and the ease in which the encapsulant can be applied to the ACM. Some materials will simply seal the surface and not offer any protection against impact damage.

Removal of asbestos insulation, asbestos insulation board and asbestos coatings

130. Work involving the removal of asbestos insulation, asbestos insulation board or asbestos coatings must be carried out in a manner that reduces the potential exposure to asbestos fibres to those undertaking the task, and other persons in the vicinity. The contractor carrying out the removal of ACMs will be expected to include details in the Plan of Work (or method statement) of the control measures that are to be put in place to achieve this aim.

131. Detailed guidance on methods of removing such asbestos insulation, asbestos insulation board and coatings is contained in HSE publication ‘*Asbestos: The licensed contractors’ guide*’ HSG 247. This includes guidance on:

- Methods of controlled asbestos removal
- The four-stage clearance procedure; and

- Cleaning and disposal of asbestos waste.
132. The method of removal of the asbestos will have an obvious effect on the amount of asbestos fibre that becomes airborne and the method selected should minimise fibre release. The methods to be used should be clearly stated in the Method Statement, but uncontrolled dry stripping of asbestos **must never take place**.
133. There are two broad categories of controlled stripping techniques which can be used to minimise the release of fibres during asbestos removal:
- Controlled wet stripping; and
 - Dry stripping with control at source.
134. The type of method (or combination of methods) used will depend on a number of factors including:
- The type of ACM, e.g., lagging, sprayed coating, board;
 - The thickness of the ACM;
 - The presence and nature of any coating on the ACM;
 - The type and nature of fixing, e.g., nailed, screwed;
 - Miscellaneous factors, e.g., whether pipework is redundant, the material is damaged, accessibility etc.
135. Enclosures are a fundamental component in the control of the risks associated with the release of asbestos fibres during removal work, and are required for almost all removal work of asbestos of this nature. Where consideration is being given to such work without the provision of an enclosure, this should be discussed with the Health and Safety Executive at an early stage.
136. The enclosure should be maintained under negative pressure, and the pressure should be as uniform as possible throughout the enclosure. Negative pressure units and supplementary air inlets should be located to achieve good air flow and to avoid dead spots. Air movement should be checked during the smoke test following construction of the enclosure.

137. Each enclosure must have a viewing panel, wherever possible, and airlocks and bag locks should be of an appropriate size for the controlled movement of personnel, waste and equipment in and out of the work area.
138. Comprehensive guidance on the requirements for enclosures for work with ACMs is contained in HSE publication '*Asbestos: The licensed contractors' guide*' HSG 247.

Maintenance of plant and equipment

139. This section applies to all forms of equipment used to control levels of dust, such as vacuum cleaners, air extraction equipment, filtration units and sampling equipment. All equipment should be subject to regular visual inspection (at the start of every shift), cleaning, monitoring and maintenance, **all of which should be recorded**.
140. Equipment used in the controlled removal of ACMs should comply with BS 8520:2009. The standard has 3 parts:
- Part 1** (BS 8520-1:2009): '*Controlled wetting equipment – Specification*';
 - Part 2** (BS 8520-2:2009): '*Negative pressure units – Specification*';
 - Part 3** (BS 8520-3:2009): '*Operation, cleaning and maintenance of Class H vacuum cleaners – Code of practice*'.
141. Equipment used in the enclosure must be decontaminated before being removed from the enclosure and before undertaking thorough examination. Bag changes or access to internal parts must only be undertaken in an enclosure, or in a specially designed area. If contaminated equipment is taken out of an enclosure, it must be suitable bagged and sealed and may only be reused in a working enclosure or opened in a specially designed area (see next paragraph).
142. Thorough examination and testing of air extraction equipment must be carried out at least every 6 months by a trained and competent person. This is undertaken in a specially designed area, normally a room with suitable LEV or air extraction via NPU. The risk assessment for this activity will normally indicate the requirement to wear suitable PPE and RPE.

143. The performance of the negative pressure units should be checked after it has been thoroughly examined to establish that airflow through the unit, and pressure drop across the HEPA filter, meets the manufacturer's specification. Where the airflow has dropped below its design capacity (e.g., if a 2000 cfm unit is only achieving 1500 cfm), this should be clearly marked on the unit itself and included on the test certificate. The lower figure must be used in ventilation calculations.
144. Class 'H' vacuum cleaners should be thoroughly examined every 6 months by a competent person and in accordance with the manufacturer's instructions. The effectiveness of the HEPA filter should be established during these examinations, but a filtration test for the entire vacuum cleaner must be available, not just the HEPA filter.
145. Defects in any equipment should be reported and corrected as soon as possible. Where a defect may result in exposures above the relevant control limit, the work should be stopped until the defect is repaired.

Hygiene measures

146. Asbestos workers are potentially most at risk of developing asbestos-related diseases. Removal processes by their nature disturb and release asbestos fibres, resulting in operatives and their clothing being contaminated with fibres which can become airborne and thus become inhaled. Any operative working with asbestos insulation, asbestos insulation board and coatings must therefore be subjected to rigorous decontamination procedures. This will also prevent the spread of asbestos contamination outside the work areas. This is not only important for the operatives themselves but also for others who may become exposed to asbestos fibres which are not removed.
147. The provision of an appropriate hygiene unit, usually referred to as a decontamination unit, or DCU, is essential for notifiable asbestos work. The unit should contain, in a prominent position in the clean end, a copy of the clearance certificate from the most recent asbestos removal job. Where transiting arrangements are in place (i.e., the DCU is not directly linked to the enclosure) additional procedures, PPE and preliminary decontamination is required at the enclosure before travelling to the DCU for full decontamination.

148. Advice on appropriate decontamination procedures for notifiable asbestos work is contained in HSE publication '*Asbestos: The licensed contractors' guide*' HSG 247 It is essential that the procedures selected are strictly followed in order to ensure that the potential exposure to asbestos fibres is controlled.

Personal Protective Equipment

149. Personal protective equipment (PPE) and respiratory protective equipment (RPE) are the last line of defence against exposure to asbestos fibres, and exposure to asbestos should be prevented or reduced to as low as is reasonably practicable by engineering controls before RPE is employed.
150. PPE must be suitable for the task and the individual, maintained in an efficient state, in good repair and in a clean condition.
151. Once it is established that exposure is liable to exceed the control limit of 0.1 f/cm³ despite the precautions taken, RPE must be provided and worn. This will normally include all notifiable asbestos work.
152. Various types of RPE are available and it is essential that the RPE selected matches the type of work to be done, including the working environment, the wearer, other PPE in use and the exposure concentrations (expected or measured).
153. In practice, asbestos workers are most likely to wear a limited range of RPE. A reusable half mask with P3 filter may be used for various tasks such as site pre-clean, site set-up, enclosure dismantling, waste handling outside the enclosure and DCU cleaning, whilst a power-assisted respirator with full face mask and P3 filter(s) is generally required for entry into a live enclosure. Air-fed equipment may be used in some circumstances in place of power-assisted full-face masks.
154. Further guidance on the selection of RPE is contained within HSE publications '*Asbestos: The licensed contractors' guide*' HSG 247 and '*Respiratory protective equipment at work: A practical guide*' HSG53.
155. To obtain adequate performance during use, the selected RPE must be suited to the individual and worn correctly every time. An essential aspect of the performance of RPE,

with a tight fitting full face mask, is the need for a good contact between the face seal of the mask and the operative's skin.

156. A good fit can only be achieved if the operative is clean shaven in the areas of contact and the mask is of a suitable size and shape to fit the wearer. For workers who normally wear glasses, either contact lenses, or a full-face mask which permits the fixing of special frames inside the face piece, should be worn. If neither of these options are suitable, equipment that does not rely on a good face seal for protection should be provided, e.g., a powered or air-supplied hood or blouse.
157. Face fit tests, which involve the individual testing of the face seal on the wearer, must be carried out as part of the initial selection of the RPE and/or where the model of RPE is changed. They must also be repeated at least once every 12 months and if the individual loses or gains weight, undergoes any substantial dental work or develops any other facial changes around the face seal area. The user should also carry out a fit check on every occasion that a mask is worn to ensure that a good fit has been obtained.
158. Further information on face fit testing is available in HSE information publication '*Fit testing of respiratory protective equipment face pieces*' HSE OC 282/28.
159. A poorly fitting respirator may create a false sense of security and result in significant exposure to asbestos fibres. Employers should maintain a written respiratory protection program with specific procedures for fit testing and training.
160. Employees must be given adequate instruction, information and training on the following:
 - How to fit and use the RPE correctly (including pre-use face fit each time it is worn);
 - The uses and limitations of all RPE worn in the work area;
 - How to recognise a reduction in air flow and what to do if it happens;
 - The manufacturer's instructions on the use, storage and maintenance of the equipment;
 - How to clean contaminated RPE when leaving the work area; and
 - How to recognise medical signs and symptoms that may limit or prevent the effective use of RPE.

161. RPE may be prone to misuse, careless storage, or may not be suited to an individual, so it is essential that the use of RPE be subject to a strict management system. Guidance on a suitable approach is given in BS EN 529: 2005
162. In addition to RPE other PPE will be required, including:
- Coveralls to prevent asbestos being carried from the workplace enclosure;
 - Wellington boots or other smooth, easily cleanable footwear (without laces);
 - Disposable underclothing, socks and gloves;
 - Other PPE as required, if shown necessary by the risk assessment.
163. Protective one piece coveralls, constructed from a material that will resist penetration from fibres, with seals at fasteners, neck, wrists and ankles must be worn whenever asbestos is likely to be deposited on clothing. Disposable coveralls are strongly recommended, but where non-disposable coveralls are worn, these must only be decontaminated by a specialist laundry equipped to accept and process asbestos contaminated items.
164. A Type 5, category 3 disposable coverall is the appropriate standard for asbestos work, and most commonly used in practice. The coveralls should be worn in such a way as to reduce the ingress of dust inside the garment. The coverall hood should be worn over the straps of the RPE and the coverall legs should be worn over footwear. After one use, the coverall should be disposed of as asbestos waste.
165. Further PPE may be required based on the outcome of the assessment; for example, waterproof clothing for outdoor work.
166. Personal clothing that accidentally becomes contaminated must be treated as if it were PPE and be decontaminated or treated as asbestos waste.

Role of the analyst

167. The analyst is responsible for completing site clearance certification for the work area, and may also be involved in determining the air monitoring strategy during the asbestos removal, either in conjunction with the client or the contractor.

168. The analyst must be accredited by an independent organisation to carry out the work. UKAS is currently the sole accreditation body in the United Kingdom.
169. If the analyst has direct supervisory control over the asbestos work being undertaken by a specialist/licensed contractor, i.e., has direct and immediate influence over the active site activities, including the equipment and controls being used, the work methods used, inspecting the DCU etc., the analyst will require further training to demonstrate competence in these activities.
170. In order to maintain the independence of the analyst, they should be appointed and paid directly by the person or organisation (the Client) having responsibility for commissioning the work and not by the asbestos removal contractor. The analyst should have the necessary independence to act impartially.
171. If the analyst is contracted by the client, then copy of the clearance certificate should be made available to the asbestos removal company.
172. The key role of the analyst is to assess the site after the asbestos removal is complete to determine whether the area is thoroughly clean and fit for reoccupation. The assessment procedure is a 4-stage certification process as follows:
- Stage 1:** Preliminary check of site condition and job completeness;
 - Stage 2:** A thorough visual inspection inside the enclosure/work area;
 - Stage 3:** Air monitoring;
 - Stage 4:** Final assessment post enclosure/work area dismantling.
173. Detailed guidance on the role and responsibilities of the analyst, and the 4-stage clearance procedure, is contained within the HSE publications '*Asbestos: The licensed contractors' guide*' HSG 247 and '*Asbestos: The analysts' guide for sampling, analysis and clearance procedures*' HSG 248

Dealing with asbestos waste

174. Asbestos waste, debris, or material considered to be contaminated with asbestos fibres should be placed directly into suitable bags and sealed, or packed and sealed. This includes

all enclosure building materials (such as timber and sheeting) and any items that have been present and unprotected inside contaminated areas and cannot, or will not, be cleaned (including tools and equipment). It also includes all disposable PPE used in the enclosure, transit and waste routes, and disposable or discarded items used in cleaning and decontamination, such as cloths and towels. Waste water from the buckets in the airlocks should be discarded through the filtered drainage system in the shower of the DCU.

175. Solid waste should be double bagged using suitable, UN-approved packaging. This should include a red inner bag, which contains the appropriate asbestos warning label, and a clear outer bag. The following protocol should be followed for bagging (or wrapping) waste:
- Ensure the waste material has been dampened down (in the case of AIB) or is wet (a doughy consistency for lagging materials);
 - Place the waste carefully into a red waste bag and seal with strong tape;
 - In the inner stage of the bag lock (or airlock if no bag lock), the bag should be wiped down and transferred to the middle stage;
 - In the middle stage the red bag should be placed in a clear asbestos waste bag, which should then be sealed and wiped down in a similar manner;
 - The double-bagged waste should then be collected from the outer stage and transferred to the waste skip.
176. If wrapping a large object which cannot fit into the asbestos waste bags, the item should be wrapped in two layers of strong polythene. A red asbestos bag or printed label (with the same information as the bag) should be securely attached to indicate it is asbestos waste.
177. Where bagged or wrapped waste is stored temporarily, it must be kept in an appropriately locked skip or, where this is not practicable, in a suitable locked vehicle. Care should be taken to ensure that any temporary storage location is not in an area where it may be exposed to vandalism, nor close to an area considered to be sensitive, e.g., a school playground. Where temporary storage of waste bags is required on site (only where it is not reasonably practicable to transfer waste bags directly to a suitable waste skip) this should be in a dedicated, locked room.

178. Appropriate asbestos warning signs should be erected and every exposed surface of the room must be smooth and impervious so as to allow thorough cleaning after the bags have been removed. This is usually achieved by lining with polythene sheeting. A sealed bulkhead must be provided in vehicles used to transport asbestos waste to segregate passengers from the waste. Tools and other equipment should also be segregated to prevent bags being ruptured during transit.
179. The asbestos waste must be taken as soon as possible, with prior arrangement with the Public Services Department to Mont Cuet Landfill site or any site designated for this purpose in the future. This normally requires 7 days notice and a licence is required from the Environmental Health and Pollution Regulation Department for carriage. As this type of waste normally contains over 0.1% w/w of asbestos, it will be treated as Specially Controlled Waste for the purpose of the Waste Control and Disposal (Specially Controlled Waste) Regulations 2010.

Arrangements to deal with accidents, incidents and emergencies

180. The risk of an accident occurring in an enclosure during asbestos removal is always a possibility, for example, a worker collapsing or falling from height within the enclosure. Emergency procedures for the evacuation of ill or injured personnel, therefore, need to be written into the Plan of Work.
181. Decontamination should be carried out as far as possible. Where practicable employees should vacuum themselves and the victim, and sponge down RPE and boots, but evacuation of the seriously ill or injured person should not be delayed by over-elaborate attempts to decontaminate the casualty. If the victim can be moved, work colleagues can move them outside, if necessary, by slitting the walls of the enclosure. In some situations it may be necessary for the casualty to be treated inside the enclosure.
182. Arrangements for contacting the emergency services should be established in advance. If an accident occurs, information should be given to the relevant accident and emergency services at the time of the call to enable those services to prepare their own response and precautionary procedures for asbestos and other hazards. Spare disposable protective clothing and disposable respiratory protective equipment should be kept available for personnel who have to enter the enclosure and who do not have their own equipment; for example, paramedics.

183. As asbestos personnel work in many different premises and buildings, it is important that they are familiar with the procedures and arrangements in the event of a fire or other emergency requiring evacuation. Even in unoccupied buildings, there may be specific factors associated with the site which increases the potential risk of fire or other emergency situation; so the means of identifying such an event, and the means of escape must be planned. This is particularly important if the enclosure or DCU is located in a relatively inaccessible area, or the escape route is awkward or lengthy. Although, where practicable, basic decontamination is desirable if escape becomes necessary, evacuation from the premises must be the overwhelming priority and should not be delayed by undergoing decontamination.
184. After reaching a safe area after any accident or emergency, PPE and RPE should be decontaminated as far as possible.

PART FOUR

Non-notifiable work on Asbestos Containing Materials

185. In circumstances where the work with asbestos is not notifiable, the General Principles for the Control of Asbestos must be followed.
186. Subject to the restrictions described in part 3, work with the following materials are normally covered in Part 4 of this guidance:
- **Asbestos cement**, which is a mixture of asbestos (predominately chrysotile) and cement which, in the dry state, absorbs less than 30% water by weight;
 - Asbestos containing **thin textured decorative coatings**, such as paints and ceiling plasters, used to produce visual effects;
 - Any article of **bitumen, plastic, resin or rubber** which contains asbestos, where any thermal or acoustic properties are incidental to its main purpose
187. Although the potential for release of high concentrations of asbestos fibre from the above ACMs is less than when working with asbestos insulation, asbestos insulation board and asbestos coatings, there is still a potential for release of high levels of fibres when working on any materials which contain asbestos. For example, indications of typical fibre concentrations for work with asbestos cement are contained in Table 3.
188. Employers should ensure that any work with asbestos is covered by their insurance policy, as required by the Employers' Liability (Compulsory Insurance) (Guernsey) Law, 1995.

Personnel requirements

Supervision of work

189. An experienced and competent operative should supervise any work that is carried out and prepare the method statement for undertaking the work.

Training of operatives

190. In addition to the basic asbestos awareness training which should be provided to all operatives whose work could foreseeably expose them to asbestos whilst carrying out their normal day-to-day work (see paragraphs 19-21), persons who will intentionally disturb non-notifiable ACMs, such as asbestos cement and textured coatings, should receive additional training, specific to the risks associated with this type asbestos work.

191. Workers likely to fall within this category include roofers and demolition operatives removing asbestos cement roof sheets, maintenance workers etc.

192. In general terms such training should include:

- Safe work practices;
- Assessment and correct use of control measures and protective equipment;
- Decontamination procedures;
- Waste handling procedures;
- Emergency procedures;
- Relevant legislation.

Detailed guidance on the provision of appropriate information, instruction and training for non-notifiable asbestos work is provided in the HSE publication '*Work with materials containing asbestos: Control of Asbestos Regulations 2006: Approved Code of Practice and guidance*' L143.

Working Methods

193. A Plan of Work (method statement) should be prepared, which sets out:

- The scope of the work and how long it is likely to last;
- When the work will be carried out;
- The procedures to be followed to reduce exposure and prevent the spread of asbestos
- The equipment needed, including PPE;
- Decontamination and waste disposal arrangements;
- Emergency procedures
- Control measures for non-asbestos hazards which may pose a risk; for example, falls from height.

Type of Activity	Typical exposures (f/cm ³)†
Machine sawing with exhaust ventilation	Up to 2
Machine cutting without exhaust ventilation	
▪ Abrasive disc cutting	15-25
▪ Circular saw	10-20

▪ Jigsaw	2-10	
Hand sawing	Up to 1	
Machine drilling	Up to 1	
Removal of asbestos cement sheeting	Up to 0.5	
Stacking of asbestos cement sheets	Up to 0.5	
Remote demolition of asbestos cement structures dry*	Up to 0.1	
Remote demolition of asbestos cement structures wet*	Up to 0.01	
Cleaning Asbestos Cement	Roofing	Vertical cladding
Dry brushing (wire)	3	5-8
Wet brushing (wire)	1-3	1-2

Table 2 - Typical fibre concentrations for work with asbestos cement

Notes.

† Control limits are of 0.1 fibres per cm³ for all types of asbestos. A control limit is a maximum concentration of fibres in air (averaged over a continuous 4 hour period). This must not be exceeded.

The inclusion of a particular technique in the table above does not indicate that it is acceptable. These concentrations are given to illustrate the high exposures that may result if good practice is not followed.

* Subsequent sweeping up after remote demolition may give rise to concentrations greater than 1 fibres/cm³.

194. Any asbestos material should be wetted before any work is started as this is the most effective method of controlling airborne fibre release as the material is disturbed. Specialist wetting agents can make work easier, but some asbestos materials do not absorb liquid easily so other methods will also need to be used to control dust exposure; for example, a Class H vacuum cleaner. Breakage of any ACM must be avoided as far as possible to help reduce fibre release.

195. Detailed guidance on appropriate working methods to be taken when working with these types of ACMs is set out in HSE publications '*Working with Asbestos Cement*' HSG 189/2,

'Introduction to Asbestos Essentials' HSG 213, and 'Asbestos essentials: A task manual for building, maintenance and allied trades on non-licensed asbestos work' HSG 210.

196. Equipment used for non-notifiable work with asbestos should still be dealt with in the same way as described in Part 3, particularly in relation to its cleaning, maintenance and examination.
197. When the removal work is completed, the surface of the working area and any equipment used should be wiped down with appropriate cleaning rags soaked in water. A contaminated rag should never be re-soaked as this will contaminate the water. Tape may be useful for removing small dust deposits.

Personal Protective Equipment (PPE)

198. Appropriate PPE should be determined by the assessment carried out when preparing the Plan of Work. PPE must be suitable for the task and the individual, maintained in an efficient state, in good repair and in a clean condition.
199. PPE and respiratory protective equipment (RPE) are the **last lines of defence** against asbestos fibres, and do not preclude the need for appropriate working methods to be implemented to reduce the potential release of fibres.
200. Protective one piece coveralls, constructed from a material that will resist penetration from fibres, with seals at fasteners, neck, wrists and ankles must be worn whenever asbestos is likely to be deposited on clothing. Disposable coveralls are strongly recommended, but where non-disposable coveralls are worn, these must only be decontaminated by a specialist laundry equipped to accept and process asbestos contaminated items.
201. A Type 5, category 3 disposable coverall is the appropriate standard for asbestos work. The coverall should be worn in such a way as to reduce the ingress of dust inside the garment. The coverall hood should be worn over the straps of the RPE and the coverall legs should be worn over footwear.
202. Wellington boots or other smooth, easily cleanable boots (without laces) are preferable to disposable shoes.

203. If gloves are worn, these should be single-use disposable gloves. For preference nitril and vinyl gloves should be selected to reduce the risk from latex allergies. However, if latex gloves are chosen, these should be low protein and powder-free gloves.
204. RPE should be selected on the basis of the assessment of the work to be carried out, but should always have an Assigned Protection Factor of 20 or more. Suitable types of RPE include disposable respirators (type FFP3 or type FMP3), half mask respirator with P3 filter or semi-disposable respirator with P3 filter.
205. The RPE selected should be fitted and worn in accordance with the manufacturer's instructions. The types of RPE listed above are not suitable for people with beards or stubble, or for long periods of continuous use.
206. Alternative types of suitable RPE should be used in these instances. If the worker wears glasses, these should be put on after the respirator has been fitted properly – there must not be a gap between the mask and the face. The hood of the coverall must be fitted over the RPE straps.
207. Further guidance on the selection of RPE is contained within the HSE publication '*Asbestos Essentials', Equipment and method sheet EM6, HSG 210.*
208. At the end of the shift, the RPE should be taken off last and, if disposable, disposed of as asbestos waste. If not disposable, it should be decontaminated, cleaned and stored in accordance with the manufacturer's instructions. Filters on half-masks should be changed regularly, and disposed of as asbestos waste.

Hygiene facilities

209. Operatives must decontaminate themselves after working with asbestos in order to ensure that they do not expose themselves or others to asbestos fibres. The decontamination procedure should ensure that any asbestos contamination is removed prior to removal of the respirator. Further guidance is provided in HSE publication '*Asbestos Essentials', Equipment and method sheet EM8, HSG 210.*

210. Existing site washing facilities can be used but access should be restricted to the asbestos workers during the time they carry out their work, and the facilities thoroughly cleaned afterwards. All disposable personal protective equipment should be disposed of as asbestos waste following each working shift.

Dealing with asbestos waste

211. When it is impractical to remove textured decorative coatings prior to demolition, they can be left in situ and the building or structure can be demolished, provided that the written risk assessment clearly demonstrates that the amount of asbestos mixed within the final waste material does not exceed 0.1% w/w. This resulting material may then be crushed on site and reused, but if it is disposed of as waste, it will not be treated as specially controlled waste. Crushing on site may require a licence from the Director of Environmental Health and Pollution Regulation prior to being undertaken.
212. Asbestos containing materials where the asbestos fibres are firmly linked in a matrix, such as undamaged sheets of asbestos cement, undamaged asbestos vinyl tiles or bitumen pads may be disposed of without the requirement to double bag. This is only acceptable where the asbestos containing material is unlikely to release fibres and must be documented in the risk assessment.
213. Any bonded asbestos debris or contaminated material (including cleaning rags) should be placed into a suitable, UN-approved clear bag, which contains the appropriate asbestos warning label, and then sealed with tape.
214. If the bonded asbestos debris or other material cannot fit into a waste bag, it must be wrapped in a layer of strong polythene. A clear asbestos bag or printed label (with the same information as the bag) should be securely attached to indicate it is asbestos waste. Undamaged asbestos sheets do not need to be wrapped in this manner.
215. Where bagged or wrapped waste is stored temporarily, it must be placed in a dedicated locked skip or, where this is not practicable, in a suitable locked vehicle. A sealed bulkhead must be provided in vehicles used to transport asbestos waste to segregate passengers from the waste during transit. Tools and other equipment should also be segregated to prevent bags being ruptured during transit. Care should be taken to ensure that any

temporary storage location is not in an area where it may be exposed to vandalism, nor close to an area considered to be sensitive, for example, a school playground.

216. As it is not possible to identify the type of asbestos waste that is placed in sealed double bags, all waste in double bags will be treated as potentially containing friable forms of asbestos at the disposal facility. When good removal practices are followed, bagged asbestos waste will be minimised, reducing the cost of disposal.
217. Asbestos waste can only be disposed of at locations approved for disposal of asbestos waste. Currently, only Mont Cuet Landfill can accept this type of waste. The waste must be taken as soon as possible, by prior arrangement with the Public Services Department. Waste containing less than 0.1% w/w of asbestos is not treated as Specially Controlled Waste for the purpose of the Waste Control and Disposal (Specially Controlled Waste) Regulations 2010.

Environmental or personal monitoring

218. There is normally no need for environmental or personal monitoring to be carried out during non-notifiable work as the required control measures should reduce levels of exposure to well below the control limit. If the assessment prepared as part of the Plan of Work determines that environmental or personal monitoring is required, or the Client wants clearance air sampling to be carried out for reassurance purposes, it should be carried out by a UKAS accredited organisation in accordance with the HSE publication '*Asbestos: The analysts' guide for sampling, analysis and clearance procedures*' HSG 248.

Arrangements to deal with accidents, incidents and emergencies

219. The procedures for dealing with emergencies during planned non-notifiable work should be included in the Plan of Work. These should cover instances such as medical emergencies, fire, uncontrolled release of asbestos fibres due to unforeseen circumstances, power failures etc.
220. In any circumstances where there is a suspected accidental uncontrolled release of asbestos, such as inadvertent disturbance of suspected asbestos containing materials, emergency procedures should be implemented without delay.

221. Work should stop immediately and the area segregated to prevent anybody else entering. Steps should be taken to ensure any exposures are kept as low as possible, the spread of contamination to other areas minimised and the contamination cleaned up. It is highly likely that a specialist contractor may need to be involved in all or any of these steps.
222. Where persons have become contaminated with visible dust or debris, or where contamination is suspected, then arrangements should be made to decontaminate those affected. The person should put on suitable RPE, remove the affected clothing or wipe down with damp rags and leave the area. They should then shower thoroughly. Any contaminated clothing or rags should be disposed of as asbestos waste.
223. Arrangements should then be taken to decontaminate the affected area. This work should only be carried out by operatives who have been trained and are competent to carry out the work. As this is likely to require specialist equipment, such as a Class 'H' vacuum cleaner, a specialist contractor will almost certainly be required. Air sampling should then be carried out, where appropriate, to confirm that the remedial measures taken have been effective.
224. If an employee has been potentially exposed to asbestos fibres in an incident, a note that the exposure has occurred should be added to the employee's personal record. A copy of the note must be given to the employee with instructions that it should be kept indefinitely. It is also recommended that they consult their GP to have a note of their possible exposure made on their personal medical record, which should include date(s), duration, type of fibre, type of RPE worn and likely exposure levels (if known).

APPENDIX

References and further reading

The Health and Safety at Work (General) (Guernsey) Ordinance, 1987

Health and Safety Executive

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<http://www.hse.gov.uk/respiratory-protective-equipment/resources.htm>

USES OF ASBESTOS

The following tables list the possible uses and characteristics of asbestos. They are listed in order 'friability', i.e. potential for release of fibres (highest to lowest). Examples of typical occurrences have been given, but these only are illustrative and not inclusive.

Sprayed Coatings	
Use	Thermal and acoustic insulation and fire and condensation protection systems
Content	Up to 85% asbestos in hydrated asbestos cement. A mixture of asbestos types was used up until 1974; Spraying was prohibited in the UK in 1974
Occurrences & Remarks	As insulation on roof undersides & sometimes the sides of buildings and warehouses; often in multi-storey flats & schools, for example on structural framework; as fire stopping in ceiling void / undersides of floors; ceilings of swimming pools. EXTREMELY friable. High potential for fibre release unless sealed . . Potential increases if disturbed during repair or maintenance and as materials age or disintegrate. Released dust may accumulate Repair and removal only by competent and training asbestos removal contractors (as per Part 3)

Lagging	
Use	Thermal and acoustic insulation and fire and condensation protection systems
Content	Variable asbestos content. All types of asbestos have been used.
Occurrences & Remarks	Mostly in or on heating systems such as round boilers or calorifiers and around pipework. Widely used in public buildings and factories. "Loose fill" asbestos was often installed as loft insulation Removal only by competent and training asbestos removal contractors (as per Part 3).

Insulating Board	
Use	Fire protection, thermal and acoustic insulation, and also in general building work because of their resistance to moisture movement Widely used from the 1950s until middle 1970s. UK manufacture ceased in 1980, and it is unlikely to be found in buildings after 1982. "Asbestolux" and "Marinite" are examples of the trade names.
Content	16-40% amosite or, a mixture of amosite and crocidolite.
Occurrences	Found in all types of building, industrial, commercial, public and private. Often as wall panel boards, ceiling tiles, plaster board, partition, roof underlays, bath panels, soffits, lift shaft linings, porch linings, infill panels. Asbestos is also found in insulating board cores and linings of composite products used for acoustic attenuators, cladding infill panels, domestic boiler casings, partition and ceiling panels, oven linings and suspended floor systems. Work on insulation board can give rise to high levels of dust, especially if broken, drilled or sawn. Removal only by competent and trained asbestos removal contractors (as per Part 3).

Ropes & Yarns	
Use	Lagging, jointing and packing materials. Heat or Fire resistant gaskets and seals, caulking in brickwork, boiler and flue sealing, and plaited tubing for electric cable.
Content	Usually 100% asbestos. Chrysotile only after 1970
Occurrences & Remarks	There is the potential for fibre release when unbounded material is stored in bulk. Caulking is unlikely to release fibres.

Cloth	
Use	Jointing, packing, gaskets, thermal insulation, lagging including older fire-resistant blankets, mattresses and protective curtains, gloves, aprons, overalls etc
Content	Usually 100% asbestos, but textiles may be aluminised to also reflect heat. Usually Chrysotile.
Occurrences & Remarks	Often found in foundries, kitchens and laboratories There is the potential for fibre release when materials are in poor condition, abraded or frayed.

Millboard, paper and paper products	
Use	Heat insulation and fire protection, electrical and heat insulation of equipment, roofing felt and damp-proof courses, steel composite wall cladding and roofing, vinyl flooring, facing to combustible boards, flame resistant laminate and corrugated pipe insulation
Content	Usually close to 100%. All types of asbestos used (chrysotile only since 1965)
Occurrences & Remarks	Fibres are not highly bonded, so are liable to be released when worn or abraded. They can present a hazard when handled. Removal only by competent and training asbestos removal contractors (as per Part 3).

Asbestos Cement Products	
Use	<p>Profiled sheets; Roofing, wall cladding and weather boarding</p> <p>Semi-compressed flat sheet and partition board; Partitioning in farm buildings and housing, shuttering in industrial buildings, decorate panels, bath panels, soffits, linings to walls and ceilings, portable buildings, propagation beds in horticulture, fire surrounds, composite panels for fire protection.</p> <p>Fully compressed flat sheet and partition board; used as semi-compressed products but where greater strength is required.</p> <p>Tiles and slates (fully compressed flat sheet); Cladding, decking and promenade tiles and roofing</p> <p>Pre-formed moulded products; Cistern and tanks, sewer pipes, rainwater goods, flue pipes, fencing</p>
Content	Usually 10-15% asbestos, though up to 30% is possible. All three asbestos types have been used, though mainly chrysotile.
Occurrences & Remarks	<p>Present in many building types. Asbestos is held tightly within the structure of the but fibres will be released if the material is mechanically damaged or if aged. Although the cement will weather, fibres release through this means will be low. Moss, algae and lichen frequently grow on old and poorly maintained surface. Cleaning may release fibres. Low pressure cleaning with added biocides can cause splashing and result in a contaminated slurry, but is preferable to any means involving abrasion.</p> <p>The material is very fragile and precautions must be taken to prevent falls trough sheets.</p> <p>WARNING: Asbestos cement can sometimes be found with other more dangerous asbestos materials such as sprayed coatings</p>
Asbestos Bitumen products	
Use	Roof felts, damp-proof courses, semi-rigid roofing, gutter linings
Content	Chrysotile fibre or paper in bitumen
Occurrences & Remarks	Fibre release is unlikely during normal use, but the product may be brittle with age and fibres may be released is the material is broken up. Materials should not be burnt after removal, as asbestos will be released by the fire.
Flooring Materials	
Use	Floor tiles and backing for PVC flooring
Content	Varying, depending on type. (Asbestos paper backed PVC flooring up to 100%chrysotile, PVC floor tiles and unbacked PVC flooring, usually less than 10%)
Occurrences & Remarks	<p>Domestic, Commercial, Industrial and Public Buildings.</p> <p>Fibre release is unlikely during normal use, but ,ay occur when the material is cut, or if flooring is removed (especially if paper is cut).</p> <p>Flooring should be lifted carefully and dust dampened and collected. Residues on the floor should be covered or skimmed. Power sanders should not be used. Materials should not be burnt, but disposed of safely</p>

Textured coatings and paints	
Use	Coatings on walls and ceilings
Content	Approximately 35% chrysotile
Occurrences & Remarks	Supply and application has been prohibited since 1988, but is widely found, for example, as “artex”, in domestic, commercial, industrial and public buildings. Materials should not be power sanded or scraped off dry. If removal is necessary, wettable materials should be scraped of wet after soaking with water and detergent (which will act as a wetting agent). Other materials may need to be treated with paint stripper prior to wetting and scrapping off. If known, the manufacturer should be approached for advice. Wet materials should be double bagged in plastic sacks after removal and sealed.
Mastics, sealants, putties and adhesives	
Use	Lends “anti-slumping” characteristics as well as improved covering power and prevention of cracking and crazing.
Content	Approx 0.52%
Occurrences & Remarks	Unlikely to release fibres on application. Hardened product should not be sanded.
Reinforced plastics	
Use	PVC panels and cladding. Reinforcement for domestic goods
Content	Variable content. Usually chrysotile
Occurrences & Remarks	Unlikely to release fibres, unless cut using powered equipment.
Wall plugging compound	
Use	Wall fixings
Content	More than 90% asbestos with cotton fibre and plaster dust
Domestic appliances and motor vehicles	
Use	Extensive used for heat insulation and friction properties.
Content	Varies according to material type. The Manufacturers and suppliers should be able to provide information
Occurrences and remarks	Extensive. Hairdryers, fan and radiant electric heaters, toasters, washing machines, tumble dryers, dish washers, refrigerators, freezers, cookers, simmering mats, oven gloves, fire blankets, boilers and pipe work, gas warm air heaters,etc.

Control of Asbestos: Approved Code of Practice 2013

This is the second edition of the Approved Code of Practice on work with asbestos. It has been amended and updated to reflect the latest best practice.

This publication is for anyone with responsibility, directly or indirectly, for work with asbestos and for workplaces, buildings and structures where asbestos may be present. This includes employers, employees, self-employed workers, contractors and landlords.

The Health and Safety Executive is the regulator for Workplace Health and Safety in Guernsey and provide advice and guidance on how to improve workplace health and safety performance.

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