



Controlling Exposures to prevent occupational lung disease in the construction industry

Licensed Asbestos Removal Worker

HAZARDS AND RISKS

Licensable work is typically required on demolition, renovation and/or maintenance projects where asbestos containing materials (ACMs) such as boiler and pipe insulation, sprayed coatings and asbestos insulating boards (AIB) may need to be disturbed or removed. ACMs may also need to be disturbed during ancillary works such as scaffold erection.

Asbestos

Asbestos is classified as a category 1 carcinogen and causes around 5000 work-related deaths each year in the UK. When materials that contain asbestos are disturbed or damaged, fibres are released into the air which, when inhaled, can cause mesothelioma, asbestos-related lung cancer, asbestosis, and pleural thickening - all fatal or serious and incurable diseases which take many years to manifest.

CONTROL OPTIONS

Enclosures

- All licensable work will normally require an enclosure that is maintained under negative pressure and connected to a decontamination unit (DCU) by an airlock system.

PPE

- For work inside enclosures, power-assisted full-facepiece respirators fitted with P3 filters (or higher performance equipment, eg. breathing apparatus) should be worn.
- Disposable respiratory protective equipment (RPE) with FFP3 rated protection; or half-mask RPE (with P3 filters) can be used for low-risk ancillary tasks.
- Type 5, category 3 disposable coveralls should be worn.

Safe & controlled working methods

- Control asbestos dust at source using local exhaust ventilation (LEV) or controlled wetting techniques, eg airless or low-pressure spraying (use dielectric fluids on or near electrical equipment).
- Avoid dry asbestos stripping techniques. Otherwise, control asbestos fibre release by methods such as the use of "glovebags", or vacuum transfer of ACMs.
- Choose methods that avoid abrasion, sanding, machining or cutting of ACMs - for example; remove an item intact, instead of breaking it, or wrap and cut off insulated pipes at flange joints, rather than disturb the insulation.

Decontamination units (DCUs)

- Provision of a DCU to prevent the spread of asbestos fibres from the enclosure is essential for all licensed asbestos work. The DCU should be on site before any work starts and be the last thing to leave site at the end of the job. DCUs can be mobile, modular or vehicular and must meet the HSE's minimum design criteria set out in the Asbestos: The licensed contractors guide.

Controlled working procedures

- Comply with the decontamination procedures set out in the above guide.
- Consider removing ACMs before major work (such as refurbishment) begins.
- Pre-clean the work area and thereafter clear up at regular intervals, using vacuum-cleaning equipment of class H (BS 8520-3:2009).
- Ensure asbestos waste is safely and regularly disposed of from site.
- Re-route cables away from ACMs and protect ACMs from damage if working nearby.
- Minimise the number of site staff who might be exposed to asbestos during the work.

MANAGING THE RISK

The appropriate enforcing authority (usually the HSE) must be notified at least 14 days before each job. A plan of work - explaining what the job involves, the work procedures, and what controls to use - must have been prepared by the time of notification. All licensable work must also comply with the Control of Asbestos Regulations 2012.

Supervision

Strong supervision to ensure compliance with all work procedures, including decontamination, is required to ensure workers do not develop poor practices or become complacent.

Air monitoring

Periodic air monitoring using a method approved by the HSE (eg as described in its Asbestos: The analysts' guide for sampling, analysis and clearance procedures) is required to confirm that the enclosure, airlocks and LEV equipment are working effectively.

Maintenance & testing of controls

RPE should be inspected prior to use. Reusable RPE must be thoroughly examined and tested every month. All RPE wearers should be subject to RPE face fit testing. The LEV systems must be thoroughly examined and tested at least every six months by a trained and competent person. A thorough visual inspection of enclosures is required at the start of each shift. Enclosure testing with smoke tracers or differential pressure monitors is required at frequent intervals (daily where the enclosure is located in an occupied building).

Health surveillance

Licensed employees must be subject to regular medical surveillance for as long as they are at risk of exposure to asbestos.

Training requirements

Licensed asbestos workers must not start work without having received the appropriate level of training, including practical training in decontamination procedures, RPE fit testing and maintenance, effective work techniques, construction of enclosures and airlocks, and the maintenance of plant and equipment. Workers should understand the health hazards and their likely exposure risks. A training strategy must be in place.



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WORKPLACE EXPOSURE LIMITS (WELs) & EXPOSURE LEVELS

Agent or substance	Control/Exposure Limit
Asbestos	<p>The control limit for asbestos is 0.1 asbestos fibres per millilitre of air (0.1 f/ml) (averaged over a four hour period). This control limit is not a 'safe' level and exposure must be reduced to as far below the control limit as possible.</p> <p>Licensable work is that which will result in exposures above the control limit, or all work with sprayed asbestos coating, or work on asbestos insulation or AIB where the work is not "sporadic and of low intensity" and not of short duration.</p> <p>The control limit for non licensed work is 0.6 f/ml (averaged over a ten-minute period). Any work which may result in exposure above this limit is not "sporadic and of low intensity". "Short duration" applies to work that will not take more than two hours in any seven days and where no one person will be working for more than one hour in total over that 7 days.</p>

GUIDANCE EXPOSURE LEVELS FOR WELL/POORLY CONTROLLED LICENSABLE JOBS

WELL CONTROLLED WORK WITH ACMs	
Job	Likely fibre concentrations (f/ml)
Controlled wet stripping using manual tools	up to 1 (unless a dry patch is hit or lagging becomes detached)
Careful removal of whole AIB	up to 3
Drilling AIB with vacuum trace	up to 1

POORLY CONTROLLED WORK WITH ACMs	
Job	Likely fibre concentrations (f/ml)
Stripping pipe or vessel lagging – partially wetted or dry areas present	up to 100
Stripping sprayed coatings – partially wetter or dry areas present	around 1000
Drilling AIB without vacuum trace	up to 10

Further information

- Asbestos: The licensed contractors guide: www.hse.gov.uk/pubns/priced/hsg247.pdf
- Asbestos: The analysts' guide for sampling, analysis and clearance procedures: www.hse.gov.uk/pubns/priced/hsg248.pdf