

Asbestos Exposure

Exposure to asbestos fibres causes mesothelioma, lung cancer and asbestosis, all of which can be fatal. Worst of all, it's not instant and you won't see it coming, these diseases may not develop for ten to fifty years.



- Asbestos kills around 5000 workers each year, this is more than the number of people killed on the road.
- Around 20 tradespeople die each week as a result of past exposure
- Asbestos can be present today in any building built or refurbished before the year 2000.

Purpose of this guide

Who is this for?

This guide has been created to assist anyone who may disturb Asbestos Containing Materials (ACMs) when working on our infrastructure. It will also assist responsible managers and those who control site safety and access, by showing where ACMs are likely to be.

Switch gear for signalling supplies have been identified as High risk (more information included in separate document)

Signalling cables, cases and cabinets and signalling batteries have been identified as potentially Medium risk.

Safety, Technical and Engineering (STE) has completed an assessment of all our assets and identified three items as potentially medium or high risk. Lots of information was used to complete the assessment, including; previous survey information, location, asbestos type, accessibility etc. There are other assets that may contain ACMs that have been identified as low risk (AWS, cables and cabinets externally, detector boxes, point machines, signal etc.). Items that have been manufactured after 1999 should not contain ACM's due to legislation change.

This guide highlights the most significant risks, but there may be others

This guide provides a list of locations where we believe ACMs might exist, but there may be others. You should always assume that an asset will contain asbestos unless it has been inspected/surveyed and recorded on [Network Rail's Asbestos Risk Management System \(ARMS\)](#).

This guide must not be used in place of an asbestos survey.

Asset Information

Switchgear for signalling supplies can contain a variety of asbestos containing materials (ACMs) made out of varying product types including asbestos cement panels, millboards, other low-density insulating boards, textiles, gaskets, ropes & paper. Switchgear for signalling supplies are typically located internally and within areas that can be occupied on a daily basis. For more information please refer to the full switchgear document.

Signalling cables are present through Network Rails Managed Infrastructure and can be of varying ages. Cables product types include cement, woven textiles, bitumen wrap, paper, rope and felt. Cables internally can be located in rooms up to 100 m2 that can be occupied on a daily basis.

Cases, cabinets and enclosures can be metal or plastic. Product types include asbestos cement panels, millboards, other low-density insulating boards, textiles, gaskets, ropes and door seals, paper and cement. Cases, cabinets and enclosures can be located in rooms similar to signalling cables.

Signalling batteries can also contain (ACMs) made out of loose asbestos and composite materials. Asbestos is known to have been used in a number of battery types and sizes, and was used in battery production all around the world. Although asbestos is banned in most the UK since 1999, batteries imported from other countries where asbestos has not been banned might still contain asbestos. Typically batteries can be found sitting on cement or asbestos insulating board shelves which were installed up to 20 years ago. These boards can be quite easily damaged by the installation and removal of the batteries stored on them. Boards are often found with damage at the edges from where they were cut before installation, they can also have screw holes and dents/chips within the boards. In most cases the shelving is not encapsulated or sealed. Signalling Batteries are typically located in rooms which can be occupied daily.

Typically, some of the asbestos locations for cases, cabinets and enclosures and location for signalling supplies are:

- Rope or cloth door seals
- Base boards
- Cable sleeves
- Wall/Backboards
- Enclosures (Signal Heads, disconnection box, point machines, axle counter, CCTV, platform indicators, Signal Post Telephones) NOTE: If the equipment is mounted in an internal environment that can be occupied it is deemed to be medium risk.
- Other internal/external equipment e.g. switchgear, transformers, relays, fuse holders

Cables internal asbestos location:

- Insulation
- Wrap
- Sleeves
- Trays
- Thermal paper
- Electrical cloth, panels, wiring insulation and ducts.
- Cables may run through some material that are covered by or made from ACM containing materials.

Signalling batteries:

- Raw asbestos used as thermal insulation inside the battery casings
- Added in manufacturing of the battery casings themselves.
- Commonly batteries can be found on shelving which is either asbestos insulating board or cement.

The above mentioned ACMs are usually inaccessible but may occasionally likely to be disturbed.

If any suspected asbestos elements could be disturbed or are damaged it should be reported to the duty holder (DRSAM(NR)/TOC/FOC/DFO or other) who will determine what action is required.

Maintenance

Switchgear for signalling supplies - There are various types of maintenance tasks that are undertaken that may interact with the ACMs. The tasks could include Cleaning and measuring voltages, maintenance of equipment containing ACMs, maintenance to assets that are attached to asbestos boards, installing/removing/repairing services, general building repairs, removal of flaking paint/coatings that contain asbestos or are on an asbestos material.

Re-wireable fuse holder, fuse base, flash guard



Fuse box/switch gear, fuse shields/flash guards – asbestos cement



In cases, cabinets and enclosures there are various types of maintenance tasks that are undertaken that may interact with the ACMs. The tasks could include removing/repairing/replacing internal components or removal/replacing rope seals. The cases, cabinets and enclosures are can be accessed more frequently than once a year for inspection and when the an upgrade project is occurring.



Seal



Panels

Maintenance continued

There are various types of maintenance tasks that are undertaken that may interact with the ACMs in **Cables (Internal)**. The tasks could include removing/repairing/replacing damaged cables, splicing electrical cable, repairing or installing asbestos insulation around wires or junction boxes, and working around transformers, generators, and other electrical equipment. If equipment is working generally cables are not inspected and are not checked directly, only if there are known issues or prior to upgrading projects.



Cable wrap / bitumen

Signalling batteries shelving themselves are not subjected to maintenance; occasionally shelving may be repaired if damaged. Maintenance of the equipment stored on the shelving is undertaken and the shelving could potentially be damaged from the movement of equipment and edges being knocked by operatives or tools. Typical maintenance to the batteries is cleaning and measuring voltages.



Work with Asbestos

There are three types of work with asbestos:

1. Non-Licensed Works - Work with asbestos that does not require a licence from the HSE. Further information on non-licensed works can be found at <http://www.hse.gov.uk/asbestos/licensing/non-licensed-work.htm>

2. Notifiable Non-Licensed Works (NNLW) - Work with asbestos that does not require a licence from the HSE but is required to be notified to the appropriate enforcing authority (HSE/ORR). Further information on NNLW can be found at <http://www.hse.gov.uk/asbestos/licensing/notifiable-non-licensed-work.htm>

3. Licensed works - Work with asbestos that requires the contractor to hold a license from the HSE and usually requires notification to the appropriate enforcing authority (HSE) 14 days prior to the work starting. Further information on licensed works can be found at <http://www.hse.gov.uk/asbestos/licensing/licensed-contractor.htm>

There are some tasks Network Rail Operatives undertake which bring them into contact with asbestos. Most maintenance tasks deemed as work with asbestos will not be licensed works. With the correct level of information, instruction and training, and if the works are deemed as **Non-Licensed Works** or **Notifiable Non-Licensed Works (NNLW)**, Network Rail Operatives can undertake these tasks. Network Rail Operatives must never undertake **Licensed Works** – a Licensed Asbestos Removal Contractor (LARC) must be used.

There is a guide on the HSE website to assist in deciding if the work requires a Licensed Asbestos Removal Contractor <http://www.hse.gov.uk/asbestos/managing/flashtools/isitlicensed.htm>
If the work falls under notifiable non-licensed work the notification form can be found at <https://extranet.hse.gov.uk/lfservlet/external/asbnnlw1>

Work with Asbestos continued

Some examples of maintenance work which **does not usually require a licence from the HSE** are listed below:

- Maintenance work on asbestos cement products or other materials containing asbestos (such as paints, bitumen, resins, rubber, etc.) where the fibres are bound in a matrix which prevents most of them being released.
- Small, short duration maintenance tasks where the control limits will not be exceeded
- Encapsulation and sealing-in work on ACMs that are in good condition
- Maintenance work involving asbestos gaskets and asbestos rope seals
- Brushing, scraping, dusting, cleaning, wiping or any other activity which could release asbestos fibres into the atmosphere.
- Painting undamaged asbestos insulating board
- Repairing asbestos cement
- Removal and replacement of batteries to asbestos shelving
- Removal of affected cable or installation of a new cable(s) that may disturb the
- Asbestos covering.
- Dusting, cleaning, wiping or any other activity which could release asbestos fibres into the atmosphere

Some examples of maintenance work which **requires a license from the HSE** are listed below:

- Work on asbestos insulating board, where the risk assessment indicates that it will not be of short duration
- Cleaning up significant quantities of loose/fine debris containing ACM dust (where the work is not sporadic and of low intensity, the control limit will be exceeded or it is not short duration work)
- Maintenance works that require the removal or disturbance of pipe lagging

If there is asbestos dust/debris present works may need to be completed by a Licensed Asbestos Removal Contractor.

All non-licensed and notifiable non-licensed work with asbestos requires:

- Risk Assessment <http://www.hse.gov.uk/asbestos/risk-assessments.htm>
- Appropriate Controls <http://www.hse.gov.uk/asbestos/essentials/index.htm>
- Information, Instruction & Training <http://www.hse.gov.uk/asbestos/training.htm>
 - Asbestos awareness training (NR training catalogue course code S&SD/OH&S/AM RME)
 - Task-specific information, instruction & training (Cat B Training industry standard, delivered by NR approved framework asbestos contractor)

In summary - for all work with asbestos, staff will require adequate PPE (including a face fit test), training, appropriate equipment and medical surveillance (for>NNLW). Records must be kept in relation to works completed including exposure and health records. Arrangements need to be made for the disposal of asbestos waste including storage location, waste carriers license and waste consignment notices. Without all of the above in place, staff must not start work on asbestos.

If in doubt, do not start work.

Asbestos Guide

Cases, Cabinets and Enclosures

Further Information

Document Reference	Document Title
NR/L2/CIV/168	Asbestos Management
NR/L2/OHS/157	Health surveillance for silica and asbestos and the management of diagnosed occupational respiratory conditions.
Number Route Specific	Operational Route Asbestos Management Plan (ORAMP) / Property Asbestos Management Plan (PAMP)
Number Site Specific	Site Specific Asbestos Management Plan (SSAMP)
SI No.632	Control of Asbestos Regulations 2012
L143	Managing and Working with Asbestos. Control of Asbestos Regulations
HSG210	Asbestos Essentials (including task sheets for Equipment and method sheets EM1-EM10 and work with asbestos A1-A37)
HSG 264	Asbestos: The Survey Guide
HSG 248	The Analysts Guide
HSG247	The Licensed Contractors' Guide
GE/RT8047	Reporting of Safety Related Information
INDG453	The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
NR/L2/INV/002	Accident and Incident Reporting and Investigation
NR/L2/OHS/00103	Specialist Risk Assessment - COSHH
NR/L2/OHS/00112	Worksafe Procedure
NR/L2/OHS/00124	Competence specific medical fitness requirements and supplier requirements for medical assessments
NR/L2/OHS/0047	Application of the Common Safety Method for Risk Evaluation and Assessment
NR/L2/RSE/100/02	Application of the Common Safety Method for Risk Evaluation and Assessment
NR/L3/INV/3001	Reporting and Investigation Manual
NR/L3/INV/3001/RIM101	Reporting of accidents, incidents and occupational ill health
NR/L3/INV/3001/RIM113	Statutory reporting of accidents, incidents and occupational ill health
NR/SP/OHS/00102	Work Activity Risk Assessment
NR2072P	Preliminary report investigation form