

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.

JY – Circuit Breakers DC have been identified as potentially **Medium** risk

Safety, Technical and Engineering (STE) has completed an assessment of all our assets and identified Circuit Breakers as potentially medium risk. Lots of information was used to complete the assessment, including; previous survey information, location, asbestos type, accessibility etc.

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

DC Circuit Breakers can contain a variety of asbestos containing materials (ACMs) made from varying product types including asbestos-reinforced composites and cement

Typically, some of the asbestos locations to Circuit Breakers are:

- Arc chutes
- Resistors
- Gaskets
- Voltage coil protection paper
- Magnetic coil gaskets and casings
- Side flash panels
- End Panels
- Washers
- Cable trough

Circuit Breakers are typically located in rooms that can be occupied for short durations when maintenance or fault/defect rectification activities are being carried out. ACMs in the area may be easily disturbed by the occupants. Some maintenance activities could cause low disturbance to any ACMs present (e.g. possibility of contact when gaining access to equipment).

Maintenance

There are various types of maintenance tasks that are undertaken that may interact with the asbestos materials in DC Circuit Breakers. The arc chute is lifted off of the circuit breaker and placed to one side while the remainder of the circuit breaker is cleaned/dusted, an annual occurrence, for some circuit breakers this can be approximately every 3 months..

Example Photos



Cement Arc Chutes

Asbestos Guide

JY – Circuit Breakers

Maintenance continued

Example Photos



D.C. Circuit Breaker Arc Chute



D.C. Circuit Breaker Auxiliary Relay (Clonker Box) –
Cement Flash Guards



High Speed Circuit Breaker Resistors,
Gasket



Circuit Breaker, Washer to Resistor



Circuit Breaker Main Isolator (Cement
Flash Guards)



Above Circuit Breakers Cable Troughs (Cement)



D.C. Circuit Breaker Control Panel (Cement Cover)

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/isitlicenced.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:

- Laying cables in areas containing undamaged asbestos material
- Removing an asbestos containing 'arc-shield' from electrical switchgear
- Replacing an asbestos containing fuse box or single fuse assembly
- Removing asbestos containing mastic, sealant, beading, filler, putty or fixing

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

- Removal or other work which may disturb pipe lagging
- 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).

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

JY – DC Circuit Breakers

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
NR/L3/ELP/00110	Maintenance of Electrification, Plant, Signalling and Telecommunications Equipment, Incorporating Asbestos Materials or Components(NR/WI/ELP/00110)