Appendix 01/26

Minutes of the 53rd meeting of the Asbestos Network Technical Working Group (ANTWG) held on 03/08/2026.

Composition of TWG = ACAD, AMI, ARCA, ASESA, ATaC, BOHS-FAAM, HSE, IATP, Independent Industry Representatives, NORAC and UKATA

Asbestos Network

Leak Testing

Guidance for Licensed Asbestos Removal Contractors on Leak Testing Risk Assessment

Appendices are attached to Technical Working Group minutes when the nature and extent of discussions, or the complexity of the subject, warrants further explanation and clarification. This guidance is primarily aimed at Licensed Asbestos Removal Contractors (LARCs), though it may also be useful for others involved in leak testing to comply with the Control of Asbestos Regulations 2012 (CAR 2012). It summarises the discussions and conclusions of the Asbestos Network Technical Working Group and should be read in conjunction with HSE published ACOP and guidance in L143, HSG247 and HSG248.

Key points

- Where reasonably practicable, licensed asbestos removal should be scheduled when occupied premises are vacant. Eliminating occupancy during asbestos removal should be regarded as the preferred control measure, as it significantly reduces the potential consequences of any unforeseen loss of enclosure integrity and any asbestos fibre release.
- As part of its risk assessment, the LARC should decide whether leak testing is required and if so, where and how often leak testing should be undertaken.
- Where an NPU vents internally, leak testing should always be carried out at the NPU discharge location.
- The LARC is responsible for planning a proportionate strategy with the analyst and client, and for recording it in the plan of work.
- A decision not to test should be documented specifically in the plan of work.
- Leak testing not only demonstrates that the control strategy has performed as intended, it also gives warning of a containment loss that other checks would not pick up. It therefore provides assurance to the LARC, client and regulator that the necessary containment standard has been met.

Background to this appendix

There is concern that over the years there has been a decline in leak testing during licensed removal with various reasons cited including:

- additional costs for analytical work;
- issues with analyst availability;
- rarity of elevated fibre level results in previous leak sampling;
- reliance upon improved air management to ensure inward air flow (negative pressure) at all times; and
- fibre levels inside enclosures are often below 0.010 f/ml.

This decline in leak testing has occurred despite it being a requirement set out in the Control of Asbestos Regulations 2012 (CAR 2012) Approved Code of Practice (ACOP), with no equivalent alternative method available.

The intention of this appendix is to remind LARCs and clients of the legal requirements around leak testing, help them make risk-based decisions on when leak testing is needed, and highlight guidance on leak testing sampling strategies published in HSG248 Asbestos: The Analysts' Guide (2021).

The document includes **Annex 1 Questions received from industry**, which has been written in response to industry questions received.

What is leak testing?

Leak testing is a type of static air monitoring which measures the concentration of airborne fibres outside an enclosure during asbestos removal.

What does the law say?

Regulation 16 of the Control of Asbestos Regulations 2012 (CAR 2012) states:

> *'Every employer must prevent or, where this is not reasonably practicable, reduce to the lowest level reasonably practicable the spread of asbestos from any place where work under the employer's control is carried out.'*

Leak testing is a method to **check** the integrity of an asbestos enclosure and its ability to prevent the spread of airborne asbestos fibres into surrounding areas and so **demonstrates compliance** with Regulation 16.

Paragraph 416 of the ACOP to Regulation 16 provides further guidance and states:

> 'Air monitoring to reduce risks from spread of asbestos is required to measure background fibre levels outside the enclosure, **particularly when the enclosure is in occupied premises**. Check for **fibre leaks around the perimeter of the enclosure**, at the **airlock** and **bag lock** positions and **at the discharge location of the air extraction equipment, where it is sited internally**.'

Leak testing should be viewed as part of a wider asbestos management system, providing assurance that controls remain effective and that the spread of asbestos fibres is prevented or reduced to the lowest level reasonably practicable.

Under Regulation 11 of the Control of Asbestos Regulations 2012, the duty on licensed asbestos removal contractors (LARCs) to prevent exposure to asbestos extends beyond their own employees. Employers must also prevent, so far as is reasonably practicable, exposure of any other person who may be affected by the work.

Paragraphs 78 and 79 of L143 guidance state:

> In relation to the Regulations this will generally focus on ensuring that those who may be affected by work on asbestos are:
>
> - prevented from entering contaminated areas;
> - not exposed to asbestos as a result of the work being done;
> - provided with enough information to avoid risks from the work area.
>
> 'In particular, the risk assessment (regulation 6) and plan of work (regulation 7) and the control measures used should take account of people not directly employed by the employer but who could be affected by work being done on asbestos. This includes contractors and other employees working on the premises for other employers; other people occupying the premises; members of the public and other visitors etc.'

The exclusion of these groups from areas where asbestos exposure could occur should be a primary consideration during the risk assessment and planning stages.

Planning and coordination

The Construction (Design and Management) Regulations 2015 (CDM 2015) reinforce this approach by requiring construction work to be properly planned, coordinated and managed. Where multiple contractors are involved, CDM 2015 requires effective coordination by the client, principal designer and principal contractor to ensure that risks arising from the interaction of different work activities are identified and controlled.

For licensed asbestos removal work, effective coordination between the client, principal contractor (where appointed) and the LARC is essential to minimise the risk of asbestos fibre release beyond the enclosure and to protect those who may be affected.

Planning should consider:

- whether people need to occupy areas surrounding the enclosure;
- whether asbestos removal can be undertaken when the building is unoccupied, for example during weekends, holidays or planned closures;
- whether adjacent sensitive areas, critical services or vulnerable occupants could be affected; and
- the type and extent of air monitoring required to demonstrate that control measures remain effective.

Where reasonably practicable, licensed asbestos removal should be scheduled when occupied premises are vacant. Eliminating occupancy during asbestos removal should be regarded as the preferred control measure, as it significantly reduces the potential consequences of any unforeseen loss of enclosure integrity and any asbestos fibre release.

Determining whether leak testing is required

As part of its risk assessment, the LARC should decide whether leak testing is required, and, if so, where and how often it should be undertaken. Liaison with an analyst may be required depending on the complexity of the job, and liaison with the client is key to planning the work safely, and getting all the information required to make a proper assessment.

The following considerations in **Table 1** can help the risk assessment process:

Table 1: Determining whether Leak Testing is required	
NPU Vented Internally	Where an NPU does not vent to atmosphere outside the building, leak testing should **always be carried out** at the NPU discharge location.
For other situations, [and where further leak testing is required in addition to the above] determining whether leak testing is required should be on the basis of risk assessment, which considers: (a) the anticipated fibre levels within the enclosure; and (b) the risks to others in the vicinity not involved in the work.	
Occupied Areas	Where areas in the vicinity of the enclosure are **occupied** by anyone other than LARC operatives, analysts, auditors and HSE inspectors, leak testing should be carried out. Good planning with the client should preclude people from being in / near / passing through the work areas whilst removals are being undertaken, where this is reasonably practicable. Considerations should include: • access for deliveries • maintenance • cleaning • security wherever access to the area is reasonably foreseeable, these should be considered during planning.

<table>
<tr><td>Vicinity</td><td>The vicinity of the enclosure being considered will vary based on the job and the environment. The key consideration is:
If the enclosure were to fail, could fibres migrate to these spaces and affect anyone other than the LARC / professionally engaged persons?

Depending on the size of the building, this could include areas immediately surrounding the enclosure, waste routes and transit routes. Other areas also considered in the vicinity may include:
Areas with shared ventilation or air-handling systems;
Connections via corridors, stairwells, lift spaces, voids, ducts, pipe penetrations; and
External areas near the NPU discharge to which people have access, or which are close to open windows.
If there are people within or passing through the vicinity, which includes these interconnected areas where fibres could migrate to, then leak testing should be carried out.</td></tr>
<tr><td>Sensitive Areas</td><td>Sensitive areas are those where the consequences of a leak would cause significant disruption to normal business operations or continuity, shut down vital services, force evacuation, or interrupt operations in the building or services on which the wider community depends then leak testing should be carried out. Examples include:
schools
residential care or nursing homes
hospital wards
24-hour control rooms with secure access</td></tr>
<tr><td>Anticipated Fibre Levels</td><td>Some jobs generate higher fibre levels within the enclosure, so the risk from a loss of containment is greater. Examples are given below:

<table><tr><th>Lower risk tasks</th><th>Higher risk tasks</th><th>Higher risk methods</th></tr><tr><td>Cleaning small quantities of AIB debris</td><td>Spray coating removal</td><td>Wet abrasive blasting methods that could potentially place strain on enclosures</td></tr><tr><td>Removal of intact AIB within a non-asbestos frame or housing, where method eliminates breakage potential</td><td>Lagging removal</td><td>Excessive wire brushing which is known to generate high fibre levels</td></tr><tr><td>Residual asbestos insulation below paint on plant room walls</td><td>AIB removal, particularly where significant breakage may be likely</td><td>Any new method of removal to generate a body of evidence for its efficacy</td></tr></table></td></tr>
<tr><td>Summary</td><td>Having worked through all of these aspects, the LARC should ask itself:
Could anyone other than the asbestos removal site team or those professionally engaged with the works (e.g., auditor, analyst, HSE inspector) foreseeably be exposed to asbestos fibres, or could a sensitive area be contaminated if the enclosure were to fail?

The outcome of this process should inform the decision whether leak testing is required, then a suitable strategy for leak testing can be designed in consultation with the analyst. A decision not to leak test should be recorded in the plan of work, using the considerations above to justify it.</td></tr>
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Deciding a Strategy for Leak Testing

The strategy may be quite straightforward for a simple job, but for more complex jobs or premises this may need liaison with an analyst and the building occupier. In all situations, the strategy should be risk-based. **Table 2** The following examples show specific asbestos removal situations and design considerations for a leak testing strategy.

Table 2: Examples of specific asbestos removal situations and design considerations for a leak testing strategy

Situation	Design Considerations
Cutting pipes that pass through into other areas outside of enclosure	Concentrate leak testing around pipework outside the enclosure where it could be affected by vibration.
Removing ACMs that expose voids e.g. AIB ceiling tiles/boxing	Establish, where possible, whether there are any connecting spaces outside the enclosure in the immediate vicinity, and plan leak testing accordingly.
Sprayed asbestos coating removal	High airborne fibre concentrations are associated with removal as demonstrated in HSE research. Leak testing should be planned throughout the duration of the work.
Building HVAC systems passing through the enclosure	Where services extend beyond or penetrate the enclosure walls, they may provide potential routes for asbestos leakage and should be identified, tracked and monitored through leak testing..
Where the smoke test indicated weaknesses in the enclosure	Where there is evidence of difficult-to-seal areas, these should be targeted for increased vigilance.

Please note the above are just examples and not an exhaustive list.

Annex 1 Questions received from Industry

Why are other checks not sufficient to demonstrate enclosure integrity?

An asbestos enclosure is a temporary structure, either self-supporting or formed using the existing building structure, designed to isolate asbestos removal work from surrounding areas, but with controlled openings provided to allow:

- movement of personnel;
- removal of asbestos waste; and
- the controlled movement of air through the enclosure.

Enclosures incorporate heavy-duty polythene sheeting and are typically sealed using heavy-duty duct tape, spray adhesive and staples.

Smoke testing is undertaken following enclosure construction and before asbestos removal work begins. It should be used to identify defects or leaks that may not be visible during a visual inspection.

Once removal work has started, other checks may indicate a potential loss of enclosure integrity, including:

- visible tears or damage to enclosure sheeting;
- decrease in volume airflow and/or HEPA filter pressure on the NPU; and
- reduction in flap deflection compared to the start of the work;

Even where negative pressure is maintained, contaminated air may move outside the enclosure:

- A pin hole in a HEPA filter of an NPU can result in an asbestos fibre leak with no significant change in pressure detectable across the filter.
- Through defects such as gaps, damaged sheeting, movement of personnel, waste transfer activities, or other breaches in enclosure integrity.

Maintaining negative pressure is essential, but it should not be considered the only indicator of enclosure integrity.

The above checks do not directly measure whether asbestos fibres are escaping.

If we can demonstrate that leak test results are always low, why can't we stop testing?

It is important to recognise that this is a check that fulfils the management system approach to delivering sustained compliance (e.g., Plan, Do, Check, Act) and therefore even if repeated checks demonstrate compliance, this is not a reason to stop checking. A history of satisfactory monitoring results does not remove the need for continued verification. Asbestos removal conditions can change during the work, and ongoing checks remain necessary to demonstrate that controls continue to be effective.

If the risk assessment requires leak testing, how often should it be carried out?

HSG248 provides specific guidance on leak testing (see paragraphs 5.42-5.44) and advises that **both short-term and long-term leak testing** can be used to assess enclosure effectiveness and ongoing control.

- Conduct **daily** short-term sampling, usually shortly after asbestos removal begins using **higher flow rates** so significant leaks can be detected quickly through on-site analysis.
- Follow this with **extended-duration** sampling **each day**, for example over several hours.

This aligns with guidance on leak testing in HSG247 at paragraph 6.56.

When is a leak test result cause for concern?

HSG248 provides the following guidance at paras 5.45-5.46:

'The cause of **any single leak test result above 0.010 f/ml** should be investigated immediately. Work should be stopped until the situation has been investigated. The investigation should include:

- inspecting the enclosure for defects;
- checking there is sufficient airlock door flap deflection;
- inspecting the NPUs to make sure that sufficient negative pressure and airflow is still being achieved;
- checking with the licensed contractor to determine if there has been any change in removal methods or work practices or if operatives or waste bags have just come out of the enclosure; and
- considering other site factors which generate airborne material (e.g. dry brushing, handling machine-made mineral fibres (MMMF)).

HSG248 then sets out the actions to follow:

- Any leaks or issues should be identified and rectified promptly by the licensed contractor.
- If a significant leak has been identified, a further smoke test should be carried out after the repair.
- When work resumes (irrespective of the original reason for the stoppage), resampling should be conducted at the earliest opportunity. If an elevated concentration of fibres (≥0.010 f/ml) is still found to be present, work should stop and the source should be investigated further (e.g. asbestos fibres from inside the enclosure, or possibly from elsewhere, or other non-asbestos fibres).

Appropriate measures should be taken to rectify the release and/or increase the extent of the work area/exclusion zone.'