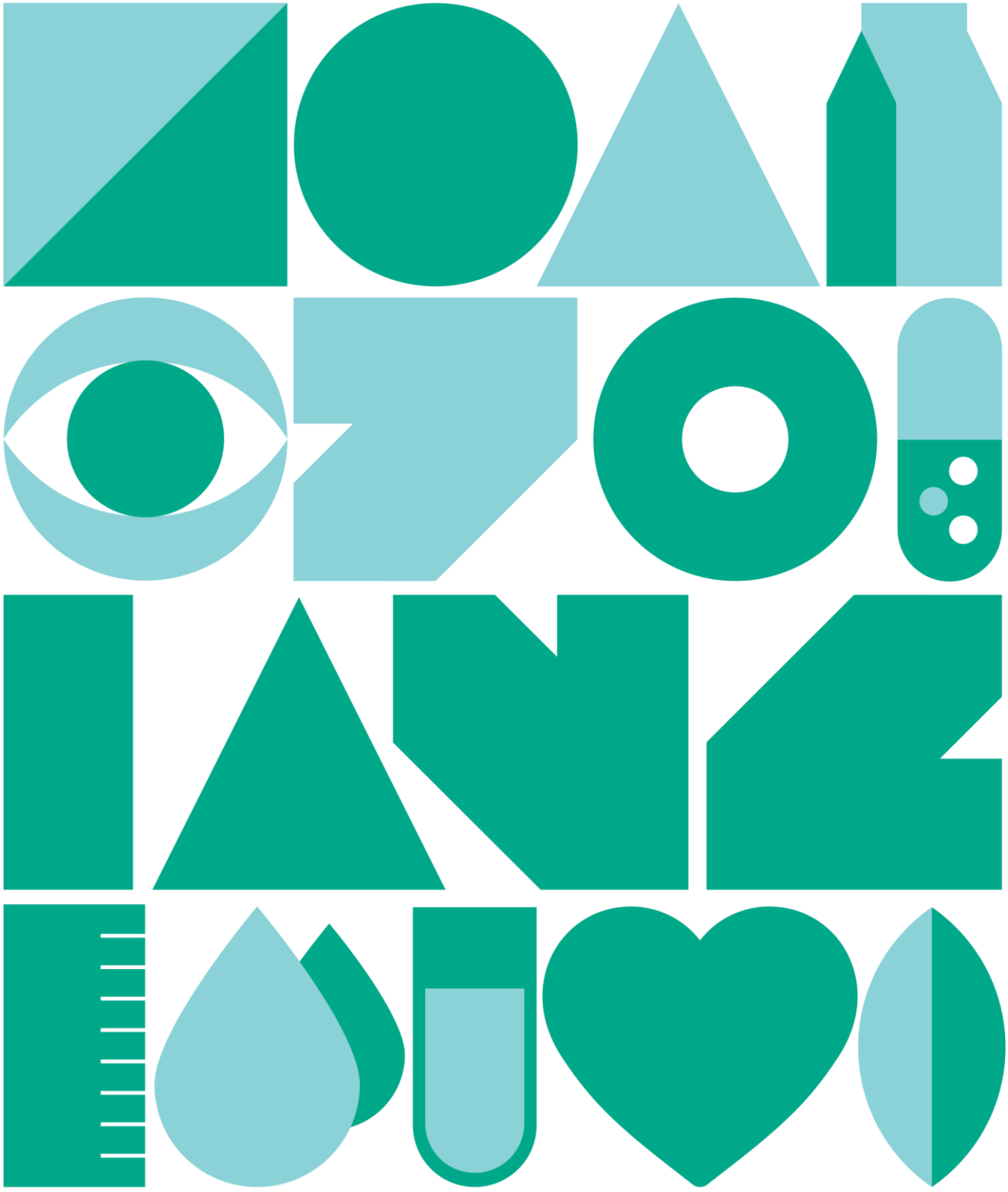

# Supplementary Criteria for Accreditation
# **Asbestos – Survey, Sampling and Testing**

Second Edition July 2020

The NZ mark of competence
Tohu Matatau Aotearoa

This page is intentionally blank

# Supplementary Criteria for Accreditation

# Asbestos – Survey, Sampling and Testing

# AS LAB C2.3 / AS IB C1.1

Second Edition July 2020

**Published by:**

*International Accreditation New Zealand*
626 Great South Road, Ellerslie, Auckland 1051
Private Bag 28908, Remuera, Auckland 1541, New Zealand
Telephone: +64 9 525 6655
Email: info@ianz.govt.nz
Internet: www.ianz.govt.nz

# Edition Statement

| Edition | Amendment | Date of Issue | ISBN No. |
|---|---|---|---|
| **1** | New | February 2018 | 978-1-877531-44-6 |
| **2** | Sample security and disposal requirements (Sections 2.4 & 2.7) added; rebrand | July 2020 | 978-1-877531-98-9 |

# Contents

# 1 Introduction

**1.1** International Accreditation New Zealand's (IANZ) Supplementary Criteria provide supplementary information to the General Criteria and Specific Criteria for Accreditation for specific types of testing or inspection activities. They provide detail or add extra information to the generally stated requirements of IANZ General Criteria for Accreditation and IANZ Specific Criteria for the particular field.

**1.2** This supplementary criteria details the specific requirements covering the accreditation of laboratories and/or inspection bodies conducting asbestos survey, asbestos sampling, asbestos testing or a combination of these activities. Testing may include both the identification of bulk asbestos and counting of airborne asbestos fibre concentrations.

**1.3** This is a supplementary document to IANZ Specific Criteria 2 (AS LAB C2) which includes requirements for chemical testing laboratories generally, and the IANZ Specific Criteria for Inspection Bodies (AS IB C1). This document must be read in conjunction with the current issues of the following standards and IANZ publications, as applicable to the organisation's scope of accreditation:

(a) ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories*

(b) ISO/IEC 17020 *Conformity Assessment – Requirements for the operation of various types of bodies performing inspection*

(c) *Specific Criteria for Accreditation: Chemical Testing* (AS LAB C2)

(d) *Specific Criteria for Accreditation: Application of ISO/IEC 17020:2012* (AS IB C1)

(e) *Specific Criteria for Accreditation: Specific Procedures and Conditions for Inspection Body Accreditation* (AS IB C2)

(f) *Specific Criteria for Accreditation: Competency Model Requirements* (AS IB C3)

(g) *Procedures and Conditions for Accreditation* (AS1)

**1.4** Accreditation for asbestos testing is granted under the IANZ Chemical Testing Laboratory Accreditation Programme in the following classes of test:

**2.64 Asbestos**

**(a) Identification**
For the qualitative identification of asbestos in bulk materials

**(b) Fibre counts**
For the determination of airborne asbestos fibre counts on membrane filters.

Where accredited asbestos testing laboratories are not responsible for sampling for asbestos testing (i.e. sampling of the bulk material for testing for the presence of asbestos or the sampling of air through membrane filters to collect the airborne fibres for counting), the laboratory must report the results as "on samples (or filters) as received" and include non-accredited disclaimers of any data reported from the sampling process. Schedules to the Certificates of Accreditation (scopes of accreditation) do not generally specifically exclude sampling in the text. Rather, when sampling is an accredited activity, the scope of accreditation will explicitly include sampling in the text. **Unless specifically stated in the scope of accreditation, a laboratory is not considered to be accredited for sampling of asbestos or fibres for subsequent testing.**

**1.5** Accreditation for survey and sampling of asbestos is granted under the IANZ Inspection Body Accreditation Programme in the following inspection field:

**Inspection Field**

Occupational hygiene

**Inspection Type**

Surveying and sampling of asbestos

# 2 Technical Requirements

In addition to the personnel requirements for Key Technical Personnel for testing activities under the Chemical Testing Accreditation Programme the following additional requirements also need to be met.

## 2.1 Personnel

### 2.1.1 Testing

(a) Key Technical Personnel (KTP) nominated by the laboratory for classes of test 2.64(a) (asbestos identification) and/or 2.64(b) (fibre counting) shall have completed at least one round of an external proficiency testing programme in each of the disciplines (i.e. asbestos identification and/or fibre counting) as appropriate, and have demonstrated satisfactory performance. This testing must have been carried out at the site of the laboratory (using that site's facilities and equipment) to which the KTP appointment pertains.

Note: Where a laboratory has distinct testing sites, these are listed separately on the scope of accreditation. A laboratory may have different KTP at different sites, or KTP may cover multiple sites. KTP must demonstrate their competency through satisfactory performance in external proficiency testing programmes at each site for which they have responsibility.

(b) Each of the KTP shall participate at least annually as individuals in external proficiency testing programmes, for each of the areas (i.e. asbestos identification and/or fibre counting) for which they have been appointed.

(c) Non-KTP staff who carry out asbestos identification and/or fibre counting and have delegated authority from the laboratory to approve/release results (but not necessarily sign/approve test reports) shall demonstrate their on-going competence through proficiency testing. Such proficiency testing may be through either internal and/or external proficiency testing activities.

### 2.1.2 Surveys

Personnel performing asbestos survey work shall demonstrate at least the following:

(a) Knowledge of the current and historic uses of Asbestos Containing Material (ACM) in the types of property they intend to survey e.g. residential, commercial, industrial properties, vehicles (including road and rail vehicles, ships/boats etc.)

(b) Ability to recognise potential ACMs in a range of locations and circumstances and to assess the risks of contamination from refurbishment and demolition

(c) Familiarity with building and construction practices to understand the likelihood of ACMs including in hidden spaces that may be liberated during refurbishment or demolition

(d) Ability to assess conditions of ACMs e.g. friable or non-friable

(e) Knowledge and skills to minimise asbestos exposure risks

(f) An understanding of the various types of surveys and the ability to correctly choose the appropriate type for the situation and circumstance

(g) An understanding of the information that needs to be gathered from the Person Conducting a Business or Undertaking (PCBU) in order to plan a survey

(h) Ability to create a detailed survey plan including a risk assessment

(i) Skills required to take uncontaminated samples of potential ACM while minimising damage and the liberation and spread of asbestos fibres

(j) An understanding of the information required to complete an asbestos management plan

(k) An understanding of the limitation of their knowledge and experience e.g. the types of properties they are competent to survey

(l) Successful completion of the British Occupational Hygiene Society (BOHS) Proficiency Module P402 or verified equivalent

(m) A minimum of six months of verifiable experience in conducting asbestos surveys of the types for which accreditation is sought that have been performed under the supervision of suitably qualified and experienced personnel.

Note: The above list of requirements for personnel undertaking survey work may be supplemented from time to time with published WorkSafe requirements.

## 2.2 Methodology

### 2.2.1 Sampling

Inspection bodies and testing laboratories that undertake sampling activities must do so in accordance with documented procedures, which are readily available at the point of sampling. Documented sampling procedures shall reference the standards (international / national) on which they were based. The sampling procedures shall include guidelines for the selection of sampling sites and shall require records of the following to be retained:

(a) Reference to the sampling plan

(b) Date and time of sampling

(c) Identification and description of the sample(s)

(d) Identification of the sampler(s)

(e) Equipment used

(f) Environmental conditions

(g) Unambiguous identification of each sampling location

(h) Deviations from the documented sampling plan (if any).

### 2.2.2 Sub-sampling – Bulk Samples

Laboratories that sub-sample from a homogenous sample need to have validated methods documented and applied to ensure that the sample analysed is representative of the sample received.

Sub-sampling of non-homogenous samples is discouraged, as there is potential to discard the part of the sample containing asbestos. If the received sample is sub-sampled, appropriate comments need to be included in the report to ensure the customer is not given a false impression of the asbestos content of the sample.

For the treatment and handling of soil samples, the procedures as per AS 4964:2004 (or equivalent) should be followed.

### 2.2.3 Testing

Laboratories will need to ensure that, if they adopt AS 4964*: Method for the qualitative identification of asbestos in bulk samples*, they can identify non-asbestos and non-mineral fibres such as Synthetic Mineral Fibres (SMF) and organic fibres, if these are present. If these fibres types are present and cannot be identified, the results cannot be considered valid.

If the laboratory is seeking accreditation for the identification of anthophyllite, actinolite and tremolite asbestos then it should be noted that AS 4964:2004 does not support the analysis of the above and therefore an alternative method will need to be sourced and verified / validated.

## 2.3 Equipment Management

Guidelines on calibration requirements and recalibration intervals for specific items of equipment related to asbestos testing are detailed in Appendix 1. The guidelines set out maximum periods of use before equipment must be recalibrated. These periods have been established by accepted industry practice and, in most instances, are the maximum permitted re-calibration intervals as laid down by international convention. Where a test method or operating environment requires a more stringent recalibration period than given here, the more frequent calibration shall apply.

IANZ may accept reduced or extended calibration intervals based on factors such as history of stability, accuracy required and ability of staff to perform regular checks. It is the responsibility of the laboratory or inspection body to provide clear evidence that its calibration and maintenance system will ensure that confidence in the equipment can be maintained.

Records of calibrations carried out in-house must confirm traceability of measurement in accordance with the IANZ Technical Policy No.1: *Traceability of Measurement* (AS TP1). This is normally achieved by the record specifically identifying the reference item used, the date and the person performing the calibration using the documented procedure.

## 2.4 Proficiency Testing

(a) Accredited asbestos testing laboratories shall implement IANZ Technical Policy No.2: *Participation in Proficiency Testing Activities* (AS TP2) and the requirements set out in the IANZ Specific Criteria for Accreditation in *Chemical Testing* (AS LAB C2). As there are proficiency testing providers accredited with programmes for the identification of asbestos, including in soils and for fibre counting, laboratories seeking or maintaining accreditation need to participate in programmes offered by these providers.

(b) For accredited laboratories with multiple sites at which asbestos testing is carried out, and in support of Section 2.1 above, proficiency testing results must be readily and unambiguously linked to the site at which the testing was carried out and the personnel who conducted the testing.

As a service to applicant and accredited laboratories, IANZ receipts proficiency testing samples from Proficiency Testing Australia and distributes these to applicant and accredited asbestos testing laboratories in New Zealand. Under its permit, issued by the Environmental Protection Authority, to import asbestos containing products, IANZ is required to:

1. Only import the samples for use within an IANZ-accredited laboratory or a laboratory that is listed on the Approved Laboratory Register on the WorkSafe New Zealand website.
2. Record the quantities imported in each shipment and make this information available to the Environmental Protection Authority upon request.
3. Record all the laboratories receiving the goods listed above and make this information available to the Environmental Protection Authority upon request.
4. Ensure all samples must be securely held within the laboratory until disposal, and must be disposed of (where otherwise not returned to Proficiency Testing Australia) at a site that is consented to accept asbestos waste (see Section 2.7 below).
5. Ensure that all laboratories receiving the goods listed above are aware of the conditions of the permit.

## 2.5 Accommodation and Environment

Testing activities may be carried out under several different scenarios which may involve accommodation at sites other than the primary location. Irrespective of the locations as defined below, the laboratory needs to ensure that environmental conditions are such that the validity of the test result is not affected.

The primary location of testing activities will be that shown on the Schedule to the Certificate of Accreditation and likely to be that at which the main part of the assessments for seeking and maintaining accreditation is carried out. Any additional sites such as field sites or mobile sites would need to be specifically referred to as such on the Schedule to the Certificate of Accreditation or would be considered outside the scope of accredited activities.

### 2.5.1 General Requirements (field and/or mobile laboratories)

For those laboratories undertaking asbestos identification and/or fibre counting activities outside of the stated permanent location, the laboratory shall have in place at least the following:

(a) Documented procedures outlining the selection of suitable accommodation and records to demonstrate the checks to confirm suitability were carried out

(b) Key Technical Personnel for reporting of test results at the site where the analyses are carried out

(c) Reports that clearly identify where the analysis work was carried out.

### 2.5.2 Field Site Laboratories

These could be considered for inclusion in the scope of accredited testing activities where the laboratory is setting up at a site for the duration of a project for a defined time period of no more than twelve months. In addition to the general requirements above the following will be applied:

(a) The laboratory shall have documented procedures requiring them to inform IANZ of the establishment of the field site, in advance or at least at the time of setting the field site laboratory, and to also advise the likely duration of the project

(b) IANZ reserves the right to assess any field site laboratory at any time during the project in accordance with the procedures set out in *Procedures and Conditions of Accreditation* (AS1).

### 2.5.3 Field Testing

This could be considered for inclusion in the scope of accredited testing activities where the laboratory may carry out testing activities such as identification of asbestos for a limited time in a temporary location i.e. a few days. In addition to the general requirements above, the laboratory shall have procedures and records to demonstrate that the property owner (or their representative) has been informed and agreed (via signed agreement) that the property may be used for the purposes of asbestos analysis or fibre counting activities.

### 2.5.4 Mobile Laboratories

This could be considered for inclusion in the scope of accredited testing activities where a vehicle has been permanently set up as accommodation for testing activities in order for it to be readily moved to new addresses.

## 2.6 Reporting the Results

The results of any activity, i.e. surveying, sampling or testing need to be reported clearly, unambiguously and objectively in a report that includes all the information as agreed with the customer and that of the methodology (where applicable).

### 2.6.1 Survey

The results of asbestos surveys shall be presented in a form suitable for the preparation of an asbestos management plan. The results of an asbestos survey should include as a minimum, where relevant:

(a) A statement of the purpose, aims and objective of the survey

(b) Type of survey undertaken

(c) Scope of the survey (including any restrictions imposed by the property owner)

(d) Date(s) of the survey

(e) A description of the property including address, age, construction type(s)

(f) The identity of the surveyor

(g) The surveyors qualifications and experience or IANZ endorsement

(h) Any restrictions or limitations arising during the survey

(i) Areas surveyed

(j) Areas not accessed/not surveyed

(k) Results in table format

(l) Results in a marked up property diagram or plan

(m) ACM product type at each location/area

(n) Level of identification (assumed or confirmed)

(o) Asbestos type in ACM

(p) Accessibility of ACM

(q) Condition of ACM

(r) Surface treatment of ACM

(s) Risk assessment and recommendations for managing risks.

### 2.6.2 Sampling

In addition to the general requirements for reports as required by the ISO standard under which the organisation operates, the testing laboratory/inspection body needs to have documented procedures for reporting which require reports to include the following information:

(a) Date of sampling (including time and duration for air sampling, where relevant)

(b) Unique identification of the item or material sampled

(c) Location of the sampling, including any diagrams, sketches or photographs

(d) Reference to the sampling plan and sampling method

(e) Details of any environmental conditions during sampling that may affect the interpretation of the results

(f) Information required to evaluate measurement uncertainty for subsequent testing.

### 2.6.3 Testing

Those laboratories undertaking testing activities need to ensure that the results are reported on reports/test certificates which meet the requirements set out in the reporting section of ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories* (current version).

## 2.7 Sample Security and Disposal

### 2.7.1 Testing Laboratories

Applicant and accredited testing laboratories must ensure all samples are held securely within the laboratory and must be disposed of at a site that is consented to accept asbestos waste.

# 3 Working with the Regulators

On occasion, alleged errors with results or issues with on-site activities are brought to the attention of IANZ by a regulatory authority/government agency i.e. WorkSafe New Zealand or the EQC Earthquake Commission, and IANZ is requested to investigate and respond directly to the government agency. While every endeavour is made not to disclose confidential information, testing laboratories and inspection bodies working in this field need to be aware that on occasion information may need to be provided in order to demonstrate that issues around incorrect reporting of results or unsatisfactory field work have been effectively addressed.

# 4 References


1. NOSHC:3003: *National Occupational Health and Safety Commission Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos 2nd Edition [NOSHC:3003 (2005)]*
2. IANZ Technical Policy No.1: *Traceability of Measurement* (AS TP1)
3. IANZ Technical Policy No.2: *Participation in Proficiency Testing Activities* (AS TP2)
4. *IANZ Specific Criteria for Accreditation in Chemical Testing* (AS LAB C2)
5. *IANZ Specific Criteria for Accreditation: Application of ISO/IEC 17020:2012* (AS IB C1)
6. *IANZ Specific Criteria for Accreditation: Specific Procedures and Conditions for Inspection Body Accreditation* (AS IB C2)
7. *IANZ Specific Criteria for Accreditation: Competency Model Requirements* (AS IB C3)
8. *IANZ Procedures and Conditions for Accreditation* (AS1)
9. AS 4964: 2004 - *Method for the qualitative identification of asbestos in bulk samples*

# Appendix 1: Recommended Calibration Intervals

The following table sets out the normal periods between successive calibrations for commonly found equipment and reference standards used in asbestos testing. The list of equipment may not be exhaustive and must be considered in conjunction with those items specified in the IANZ *Specific Criteria for Accreditation in Chemical Testing* (AS LAB C2). It must be stressed that each period is generally considered to be the maximum appropriate in each case providing the criteria as specified below are met:

(a) The equipment is of good quality and of proven adequate stability, and;

(b) The laboratory has both the equipment capability and staff expertise to perform adequate internal checks;

(c) If any suspicion or indication of overloading or mishandling arises, the equipment is checked immediately and thereafter at frequent intervals until it can be shown that stability has not been impaired.

Where the above criteria cannot be met, appropriately shorter intervals may be necessary.

IANZ is however, prepared to consider submissions for extensions of calibration intervals based on factors outlined in Section 2.3.

Items marked (*) in the table are those which may be calibrated by staff of a laboratory if it is suitably equipped and the staff are competent to perform such recalibrations. Where the staff of a laboratory have performed calibrations, adequate records of these measurements must be maintained.

| Type of equipment | Maximum period between successive calibrations | Procedures |
|---|---|---|
| Effective filter area | *On commissioning and whenever the filter, filter holder or any aspect of the filter clearing is changed. | In accordance with reference methodology |
| Furnaces<br>(for use at specified temperatures) | *On use<br><br>*Six months<br><br>*Two years | Monitor temperature with an appropriate sensor<br>Accuracy check or sensor using calibrated thermocouple or melting points of known materials.<br>Temperature variation within the working space (front to back) using reference standards e.g. calibrated thermocouple or melting points of known materials. |
| Microscope<br>• Walton–Beckett graticule | *Annual | Service and regular cleaning<br>• As per NOHSC Guidance Note:3003 |
| Refractive index oils | *Annual checks | If high grade proprietary oils are used. |
| Manual Soap Film Meter | Annual | Check volume using an appropriate measuring device. |
| Pumps | *Flowrate must be checked before and after use | Must be able to maintain flow rates of +/- 10% for the duration of sampling. |

| Type of equipment | Maximum period between successive calibrations | Procedures |
|---|---|---|
| Rotameter | | |
| • Reference | • Two years at both<br>High flow i.e. > 1 L/min<br>Low flow i.e. < 1 L/min | By an accredited calibration laboratory.<br>Check with a Soap Bubble Flow Meter. |
| • Working | • Annual | Check with a Soap Bubble Flow Meter and/or against a reference rotameter. |
| Stage micrometer | Five years | By an accredited calibration laboratory |