




Specific Accreditation Criteria

Infrastructure and Asset Integrity ISO/IEC 17025 Annex

Acoustic and vibration monitoring and analysis

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Acoustic and vibration monitoring and analysis

This document provides interpretative criteria and recommendations for the application of ISO/IEC 17025 for both applicant and accredited facilities conducting acoustic and vibration monitoring and analysis.

Applicant and accredited facilities must also comply with ISO/IEC 17025 and the NATA ISO/IEC 17025 Standard Application Document (SAD).

The clause numbers in this document follow those of ISO/IEC 17025 but since not all clauses require interpretation the numbering may not be consecutive.

5.2 Personnel

Field measurement of sound levels

For a facility accredited for the field measurement of sound relating to a community noise assessment, as described by AS1055.1, the supervising staff shall be eligible for corporate membership of a society in a related field (e.g. Australian Acoustical Society, Institution of Engineers, Australia). Alternatively, supervising staff shall hold an appropriate degree or diploma in a related field and have acceptable practical field experience with a good practical knowledge of instrumentation and understanding of community noise measurement and assessment. In exceptional circumstances, persons without formal qualifications or eligibility of corporate membership of a society may be acceptable. The acceptability of supervision arrangements will be reviewed at assessments.

Supporting staff must demonstrate, in a field situation, practical ability in community noise measurement and assessment. The staff should be prepared to demonstrate their competence in a field exercise as an integral part of the assessment of the facility.

Staff who are not normally located in the same state as the accredited facility and who are conducting field measurement of sound or vibration surveys shall be suitably qualified and experienced in this area. Such staff are considered field testing officers and their duties and responsibilities must be stated in the quality documentation. Staff approved to authorise test results must ensure that the field testing staff have received relevant training and provide adequate technical control over testing before allocating work to them.

5.6 Measurement traceability

Acoustic calibrators

To be accredited for field acoustics measurements, a suitably calibrated sound calibrator or pistonphone must be available to perform checks on a sound level meter before and after a set of field measurements.

Microphones

Microphones should be stored in a dry ambient environment (eg in boxes with sachets of drying agents or in a desiccator).

Pistonphones

When using a pistonphone to check a sound level meter's acoustic sensitivity, ambient air pressure must be measured with a calibrated barometer.

Vibration calibrators

To be accredited for field vibration measurements, a suitably calibrated vibration calibrator must be available to perform checks on a vibration transducer set before and after a field measurement.

Accelerometers

Accelerometers are to be calibrated at a minimum of 2 frequencies and 2 levels that cover the range of use (as far as practical). Triaxial accelerometers must be calibrated for each axis.

References

This section lists publications referenced in this document. The year of publication is not included as it is expected that only current versions of the references shall be used.

AS 1055.1 Acoustics - Description and measurement of environmental noise

ISO 3741 Acoustics -- Determination of sound power levels of noise sources using sound pressure -- Precision methods for reverberation rooms.

ISO 3745 Acoustics -- Determination of sound power levels of noise sources using sound pressure -- Precision methods for anechoic and hemi-anechoic rooms

Amendment Table

The following amendments were made to the Annex.

AMENDMENT TABLE			
Section	Title	Clause or Class of test amended	Amendment
New Document	This document represents an extract from the former PAT Appendix A – Acoustic and vibration testing as circulated for Public Comment in December 2016. The technical content is unchanged. The document has been reviewed and updated to reflect the new accreditation criteria documentation structure.		