Specific Accreditation Criteria

ISO/IEC 17025 Application Document

Manufactured Goods - Annex

Acoustic and vibration performance testing

July 2018

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Acoustic and vibration performance testing

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

Applicant and accredited facilities must comply with all relevant documents in the NATA Accreditation Criteria (NAC) package for Manufactured Goods (refer to NATA Procedures for Accreditation).

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.

6 Resource requirements

6.3 Facilities and environmental conditions

6.3.2

Anechoic and reverberant rooms

Such rooms must be evaluated in terms of the requirements of relevant test procedures.

Records of evaluations must be available and must include a description of:

- room size;
- volume and construction;
- ambient noise and vibration levels;
- environmental conditions;
- microphone placements;
- measurement techniques;
- measurement uncertainty and the frequency range over which measurements can be performed satisfactorily.

Note: Refer to ISO 3741 and ISO 3745 for additional information.

6.3.5

Field sites

Sites must comply with the requirements of the test procedures.

Sites must be adequately described, preferably with an attached map of its location.

Measurement sites must be identified, the period of measurement reported and temperature, humidity and weather conditions recorded.

6.4 Equipment

6.4.1

Acoustic calibrators

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.

Vibration calibrators

A suitably calibrated vibration calibrator must be available to perform checks on a vibration transducer set before and after a field measurement.

6.4.3

Microphones

Microphones should be stored in a dry ambient environment (e.g. 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.

6.4.6

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.

Standards

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
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories

NATA publications

NATA Accreditation Criteria (NAC) package for Manufactured Goods.

Amendment Table

The table below provides a summary of changes made to the document with this issue.

Section or Clause	Amendment
Whole document	Clauses have been aligned with ISO/IEC 17025:2017. No new interpretative criteria or recommendations have been included other than editorial changes.