
**Acoustics — Laboratory tests on noise
emission from appliances and equipment
used in water supply installations —**

**Part 1:
Method of measurement**

AMENDMENT 1: Measurement uncertainty

*Acoustique — Mesurage en laboratoire du bruit émis par les
robinetteries et les équipements hydrauliques utilisés dans les
installations de distribution d'eau —*

Partie 1: Méthode de mesurage

AMENDEMENT 1: Incertitude de mesure



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Published in Switzerland

Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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Amendment 1 to ISO 3822-1:1999 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 2, *Building acoustics*.

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Add Annex D (overleaf).

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Annex D (informative)

Measurement uncertainty

D.1 General

The measurement uncertainties associated with appliance sound pressure levels determined in accordance with this International Standard normally should be evaluated in accordance with ISO/IEC Guide 98-3¹⁾. Due to the statistical nature of the sound pressure measurement, the type B approach defined in ISO/IEC Guide 98-3 should be used.

Unless more specific knowledge is available, the standard deviation of reproducibility derived from round robin tests is used as the best available estimate for the uncertainty.

The expanded measurement uncertainty of determinations of appliance sound pressure levels made in accordance with this International Standard, for a coverage probability of 95 % (coverage factor $k = 2$) as defined in ISO/IEC Guide 98-3, should be taken to be $2s_R$, where s_R is the standard deviation of reproducibility, unless more specific knowledge is available, e.g. in the laboratory undertaking the measurements.

D.2 Standard deviation of reproducibility of octave band sound pressure levels

During the "2nd Round Robin Test Acoustics", values of the standard deviation of reproducibility, s_R , were determined according to ISO 140-2²⁾. Values of s_R for the appliance sound pressure level L_{apn} are given in Table D.1.

**Table D.1 — Standard deviation of reproducibility, s_R ,
determined according to ISO 140-2 for appliance sound pressure level L_{apn}**

Octave band mid-frequency Hz	Standard deviation of reproducibility, s_R dB
125	1,5
250	1,0
500	1,0
1 000	1,0
2 000	1,0
4 000	1,0

- 1) ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement* (GUM:1995)
- 2) ISO 140-2, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 2: Determination, verification and application of precision data*