
International Standard



3822/1

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Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 1: Method of measurement

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

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3822/1 was developed by Technical Committee ISO/TC 43, *Acoustics*, and was circulated to the member bodies in April 1982.

It has been approved by the member bodies of the following countries:

Australia	Germany, F.R.	Norway
Austria	Greece	Poland
Belgium	Hungary	Romania
Canada	India	South Africa, Rep. of
China	Israel	Spain
Czechoslovakia	Italy	Sweden
Denmark	Japan	Switzerland
Egypt, Arab Rep. of	Netherlands	United Kingdom
Finland	New Zealand	USSR
France		

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (i.e. ISO 3822/1-1977).

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

Part 1: Method of measurement

0 Introduction

Noise caused by water supply installations may lead to annoyance in adjacent rooms, for example in dwellings, hospitals and hotels, especially at night. This noise has its origin mainly in appliances. Standardized measurements of such noise are needed to permit comparison of the noise of commercial products made in different countries.

This part of ISO 3822 describes a method of measurement allowing comparable results to be obtained in laboratory measurements.

It is not possible to describe in detail how a given tap would give the same result in different laboratories unless the principle of comparing results to a standardized hydraulic noise generator (referred to as an installation noise standard, INS) is utilized. This procedure can be regarded as a kind of calibration of the test arrangement. The installation noise standard is described in detail and the basic arrangements for a laboratory water supply installation are given in this part of ISO 3822.

The test conditions described herein constitute the standard reference conditions essential for comparisons between laboratories.

The installation noise standard may also be useful for prediction of plumbing noise levels in the field. The sound pressure level produced by an appliance may be too low to be measured accurately. In this case, it can be determined by measuring the sound pressure level produced by an installation noise standard, mounted in place of the appliance, and subtracting from this level the difference, as measured in the laboratory, between the sound pressure levels caused by the installation noise standard and the appliance under consideration.

Descriptions of the mounting and operating conditions for testing different types of appliances are given in other parts of this International Standard; see ISO 3822/2 for draw-off taps, ISO 3822/3 for in-line valves and ISO 3822/4 for special appliances.

In national standards, the method given in this part of ISO 3822 may be supplemented by a method of calculation to enable an estimate to be made of the appliance sound pressure level expected in buildings.

1 Scope and field of application

This part of ISO 3822 specifies a method of measurement, in the laboratory, of the noise emission resulting from the flow of water through appliances and equipment used in water supply installations.

The items covered include draw-off taps, in-line valves and special appliances, for example pressure reducers and water-heating appliances, all of which are hereafter referred to as "appliances".

The method specified makes it possible to obtain comparable results of measurements in different laboratories.

2 References

ISO 7/1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Designation, dimensions and tolerances.*

ISO 49, *Malleable cast iron fittings threaded to ISO 7/1.*

ISO 65, *Carbon steel tubes suitable for screwing in accordance with ISO 7/1.*

ISO 3822/2, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 2: Mounting and operating conditions for draw-off taps.*¹⁾

ISO 3822/3, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 3: Mounting and operating conditions for in-line valves and appliances.*¹⁾

ISO 3822/4, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 4: Mounting and operating conditions for special appliances.*¹⁾

IEC Publication 225, *Octave, half-octave and third-octave band filters intended for the analysis of sounds and vibrations.*

IEC Publication 651, *Sound level meters.*

1) At present at the stage of draft.