

<b>STN</b>	<b>Stanovenie a aplikácia neistoty merania v stavebnej akustike. Časť 1: Zvuková izolácia (ISO 12999-1: 2014).</b>	<b>STN EN ISO 12999-1</b>  73 0503
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Acoustics - Determination and application of measurement uncertainties in building acoustics - Part 1: Sound insulation (ISO 12999-1:2014)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/14

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English Version

## Acoustics - Determination and application of measurement uncertainties in building acoustics - Part 1: Sound insulation (ISO 12999-1:2014)

Acoustique - Détermination et application des incertitudes de mesure dans l'acoustique des bâtiments - Partie 1: Isolation acoustique (ISO 12999-1:2014)

Akustik - Bestimmung und Anwendung der Messunsicherheiten in der Bauakustik - Teil 1: Schalldämmung (ISO 12999-1:2014)

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## **Foreword**

This document (EN ISO 12999-1:2014) has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with Technical Committee CEN/TC 126 "Acoustic properties of building elements and of buildings" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2014, and conflicting national standards shall be withdrawn at the latest by November 2014.

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### **Endorsement notice**

The text of ISO 12999-1:2014 has been approved by CEN as EN ISO 12999-1:2014 without any modification.

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**Acoustics — Determination and  
application of measurement  
uncertainties in building acoustics —**

**Part 1:  
Sound insulation**

*Acoustique — Détermination et application des incertitudes de  
mesure dans l'acoustique des bâtiments —*

*Partie 1: Isolation acoustique*





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Tel. + 41 22 749 01 11  
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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 preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 43, *Acoustics*, Subcommittee SC 2, *Building acoustics*.

This first edition of ISO 12999-1 cancels and replaces ISO 140-2:1991, which has been technically revised. It also incorporates the Technical Corrigendum ISO 140-2:1991/Cor 1:1993.

ISO 12999 consists of the following parts, under the general title *Acoustics — Determination and application of measurement uncertainties in building acoustics*:

— *Part 1: Sound insulation*

A part 2 dealing with sound absorption is under preparation.



## Introduction

An assessment of uncertainties that is comprehensible and close to reality is indispensable for many questions in building acoustics. Whether a requirement is met, a laboratory delivers correct results or the acoustic properties of a product are better than the same properties of some other product can be decided only by adequately assessing the uncertainties associated with the quantities under consideration.

Uncertainties should preferably be determined following the principles of ISO/IEC Guide 98-3. This Guide specifies a detailed procedure for the uncertainty evaluation that is based upon a complete mathematical model of the measurement procedure. At the current knowledge, it seems to be impossible to formulate these models for the different quantities in building acoustics. Therefore, only the principles of such an uncertainty assessment are explained.

To come to uncertainties all the same, the concept of reproducibility and repeatability is incorporated which is the traditional way of uncertainty determination in building acoustics. This concept offers the possibility to state the uncertainty of a method and of measurements carried out according to the method, based on the results of inter-laboratory measurements.



# Acoustics — Determination and application of measurement uncertainties in building acoustics —

## Part 1: Sound insulation

### 1 Scope

This part of ISO 12999 specifies procedures for assessing the measurement uncertainty of sound insulation in building acoustics. It provides for

- a detailed uncertainty assessment;
- a determination of uncertainties by inter-laboratory tests;
- an application of uncertainties.

Furthermore, typical uncertainties are given for quantities determined according to ISO 10140, ISO 140-4, ISO 140-5, ISO 140-7 and ISO 717 (all parts).

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 140-4, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 4: Field measurements of airborne sound insulation between rooms*

ISO 140-5, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 5: Field measurements of airborne sound insulation of façade elements and façades*

ISO 140-7, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 7: Field measurements of impact sound insulation of floors*

ISO 717 (all parts), *Acoustics — Rating of sound insulation in buildings and of building elements*

ISO 5725-1:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles and definitions*

ISO 5725-2:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

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