

**AKUSTIKA. HELIISOLATSIOONI MÕÕTMINE HOONETES  
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**Acoustics - Field measurement of sound insulation in  
buildings and of building elements - Part 1: Airborne  
sound insulation (ISO 16283-1:2014 +  
ISO 16283-1:2014/Amd 1:2017)**

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

See Eesti standard EVS-EN ISO 16283-1:2014+A1:2017 sisaldab Euroopa standardi EN ISO 16283-1:2014 ja selle muudatuse A1:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 16283-1:2014+A1:2017 consists of the English text of the European standard EN ISO 16283-1:2014 and its amendment A1:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.  Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.02.2014, muudatus A1 06.12.2017.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.  Date of Availability of the European standard is 19.02.2014, for A1 06.12.2017.
Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega <b>A1</b> <b>A1</b> .  Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags <b>A1</b> <b>A1</b> .  The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 91.120.20

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Supersedes EN ISO 140-14:2004, EN ISO 140-4:1998,  
EN ISO 140-5:1998, EN ISO 140-7:1998

English Version

**Acoustics - Field measurement of sound insulation in buildings  
and of building elements - Part 1: Airborne sound insulation (ISO  
16283-1:2014 + ISO 16283-1:2014/Amd 1:2017)**

Acoustique - Mesurage in situ de l'isolation acoustique des  
bâtiments et des éléments de construction - Partie 1:  
Isolation des bruits aériens (ISO 16283-1:2014 + ISO  
16283-1:2014/Amd 1:2017)

Akustik - Messung der Schalldämmung in Gebäuden und  
von Bauteilen am Bau - Teil 1: Luftschalldämmung (ISO  
16283-1:2014 + ISO 16283-1:2014/Amd 1:2017)

This European Standard was approved by CEN on 4 January 2014. Amendment A1 was approved by CEN on 18 September 2017.

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This European Standard and its Amendment A1 exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## Foreword

This document (EN ISO 16283-1:2014) has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with the 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 August 2014, and conflicting national standards shall be withdrawn at the latest by August 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 140-7:1998, EN ISO 140-5:1998, EN ISO 140-4:1998, EN ISO 140-14:2004.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 16283-1:2014 has been approved by CEN as EN ISO 16283-1:2014 without any modification.

## **A1** Amendment A1 European foreword

This document (EN ISO 16283-1:2014/A1:2017) 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 Amendment to the European Standard EN ISO 16283-1:2014 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

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### **Endorsement notice**

The text of ISO 16283-1:2014/A1:2017 has been approved by CEN as EN ISO 16283-1:2014/A1:2017 without any modification. **A1**

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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)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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 16283-1 cancels and replaces ISO 140-4:1998, ISO 140-5:1998, ISO 140-7:1998, and ISO 140-14:2004, which have been technically revised.

ISO 16283 consists of the following parts, under the general title *Acoustics — Field measurement of sound insulation in buildings and of building elements*:

- *Part 1: Airborne sound insulation*
- *Part 2: Impact sound insulation<sup>1</sup>*
- *Part 3: Façade sound insulation<sup>2</sup>*

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<sup>1</sup> To be published.

<sup>2</sup> Under development.



## **A1** Amendment A1 foreword

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 43 *Acoustics*, Subcommittee SC 2, *Building acoustics*.

A list of all parts in the ISO 16283 series can be found on the ISO website. **A1**

## Introduction

ISO 16283 (all parts) describes procedures for field measurements of sound insulation in buildings. Airborne, impact and façade sound insulation are described in ISO 16283-1, ISO 16283-2<sup>3</sup> and ISO 16283-3<sup>4</sup>, respectively.

Field sound insulation measurements that were described previously in ISO 140-4, -5, and -7 were (a) primarily intended for measurements where the sound field could be considered to be diffuse, and (b) not explicit as to whether operators could be present in the rooms during the measurement. ISO 16283 differs from ISO 140-4, -5, and -7 in that (a) it applies to rooms in which the sound field may or may not approximate to a diffuse field, (b) it clarifies how operators can measure the sound field using a hand-held microphone or sound level meter and (c) it includes additional guidance that was previously contained in ISO 140-14.

NOTE Survey test methods for field measurements of airborne and impact sound insulation are dealt with in ISO 10052.

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<sup>3</sup> To be published.

<sup>4</sup> Under development.

# Acoustics - Field measurement of sound insulation in buildings and of building elements -

## Part 1: Airborne sound insulation

### 1 Scope

This part of ISO 16283 specifies procedures to determine the airborne sound insulation between two rooms in a building using sound pressure measurements. These procedures are intended for room volumes in the range from 10 m<sup>3</sup> to 250 m<sup>3</sup> in the frequency range from 50 Hz to 5 000 Hz. The test results can be used to quantify, assess and compare the airborne sound insulation in unfurnished or furnished rooms where the sound field may or may not approximate to a diffuse field. The measured airborne sound insulation is frequency-dependent and can be converted into a single number quantity to characterize the acoustic performance using the rating procedures in ISO 717-1.

### 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 717-1, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation*

ISO 3382-2, *Acoustics — Measurement of room acoustic parameters — Part 2: Reverberation time in ordinary rooms*

ISO 12999-1, *Acoustics — Determination and application of measurement uncertainties in building acoustics — Part 1: Sound insulation*<sup>5</sup>

ISO 18233, *Acoustics — Application of new measurement methods in building and room acoustics*

IEC 60942, *Electroacoustics — Sound calibrators*

IEC 61183, *Electroacoustics — Random-incidence and diffuse-field calibration of sound level meters*

IEC 61260, *Electroacoustics — Octave-band and fractional-octave-band filters*

IEC 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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<sup>5</sup> To be published.