Acoustics - Field measurements of airborne and impact sound insulation and of service equipment sound - Survey method

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 10052:2005 sisaldab Euroopa standardi EN ISO 10052:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 25.01.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 10052:2005 consists of the English text of the European standard EN ISO 10052:2004. This document is endorsed on 25.01.2005 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies field survey methods for measuring: a) airborne sound insulation between rooms; b) impact sound insulation of floors; c) airborne sound insulation of façades; and d) sound pressure levels in rooms caused by service equipment. The methods described in this European Standard are applicable for measurements in rooms of dwellings or in rooms of comparable size with a maximum of 150 m3.	**Scope:** This European Standard specifies field survey methods for measuring: a) airborne sound insulation between rooms; b) impact sound insulation of floors; c) airborne sound insulation of façades; and d) sound pressure levels in rooms caused by service equipment. The methods described in this European Standard are applicable for measurements in rooms of dwellings or in rooms of comparable size with a maximum of 150 m3.

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Võtmesõnad:

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English version

Acoustics - Field measurements of airborne and impact sound insulation and of service equipment sound - Survey method (ISO 10052:2004)

Acoustique - Mesurages in situ de l'isolement aux bruits aériens et de la transmission des bruits de choc ainsi que du bruit des équipements - Méthode de contrôle (ISO 10052:2004)

Akustik - Messung der Luftschalldämmung und Trittschalldämmung und des Schalls von haustechnischen Anlagen in Gebäuden - Kurzverfahren (ISO 10052:2004)

This European Standard was approved by CEN on 24 June 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN ISO 10052:2004) has been prepared by Technical Committee CEN/TC 126 “Acoustic properties of building products and of buildings”, the secretariat of which is held by AFNOR, in collaboration with Technical Committee ISO/TC 43 “Acoustics”.

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 June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

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

Introduction

This document describes survey test methods which can be used for surveying the acoustic characteristics of the airborne sound insulation, impact sound insulation and of the sound pressure levels from service equipment. The methods may be used for screening tests of the acoustical properties of buildings. The methods are not intended to be applied for measuring acoustical properties of building elements.

The approach of the survey methods is to simplify the measurement of sound pressure levels in rooms by using a hand-held sound level instrument and by manually sweeping the microphone in the room space. The correction for reverberation time can be either estimated by usage of tabular values or be based on measurements. The measurement of airborne and impact sound insulation is carried out in octave bands. For measuring sound from domestic service equipment, A - or C -weighted sound pressure levels are recorded.

Measurements are performed with specified operation conditions and operation cycles. The operating conditions and operating cycles given in Annex B are only used if they are not opposed to national requirements and regulations.

The measurement uncertainty of the results obtained using the survey method is a priori larger than the uncertainty inherent in the corresponding test methods on engineering level.

NOTE Engineering methods for field measurements of airborne and impact sound insulation are dealt with in EN ISO 140-4 and EN ISO 140-7. Engineering methods for field measurements of airborne sound insulation of façade elements and façades are dealt with in EN ISO 140-5. An engineering method for measurement of service equipment sound is dealt with in EN ISO 16032.

1 Scope

This document specifies field survey methods for measuring:

a) airborne sound insulation between rooms;

b) impact sound insulation of floors;

c) airborne sound insulation of façades; and

d) sound pressure levels in rooms caused by service equipment.

The methods described in this document are applicable for measurements in rooms of dwellings or in rooms of comparable size with a maximum of 150 m^3.

For airborne sound insulation, impact sound insulation and façade sound insulation the method gives values which are (octave band) frequency dependent. They can be converted into a single number characterising the acoustical performances by application of EN ISO 717-1 and EN ISO 717-2. For service equipment sound the results are given directly in A - or C -weighted sound pressure levels.

2 Normative references

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

EN 20140-2, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 2: Determination, verification and application of precision data (ISO 140-2:1991).*

EN 61260, *Electroacoustics - Octave-band and fractional-octave-band filters (IEC 61260:1995).*

EN 60651, *Sound level meters (IEC 60651:1993).*

EN 60804, *Integrating-averaging sound level meters (IEC 60804:2000).*

EN ISO 140-7:1998, *Measurements of sound insulation in buildings and of building elements — Part 7: Field measurements of impact sound insulation of floors (ISO 140-7:1998).*

EN ISO 717-1, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation (ISO 717-1:1996).*

EN ISO 717-2, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 2: Impact sound insulation (ISO 717-2:1996).*

EN ISO 3822-1, *Acoustics - Laboratory tests on noise emission from appliances and equipment used in water supply installations - Part 1: Method of measurement (ISO 3822-1:1999)*

3 Terms and definitions

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