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Irish Standard
I.S. EN ISO 10052:2021

Acoustics - Field measurements of airborne and impact sound insulation and of service equipment sound - Survey method (ISO 10052:2021)

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National Foreword

I.S. EN ISO 10052:2021 is the adopted Irish version of the European Document EN ISO 10052:2021, Acoustics - Field measurements of airborne and impact sound insulation and of service equipment sound - Survey method (ISO 10052:2021)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 10052

July 2021

ICS 17.140.20; 91.120.20; 91.140.01

Supersedes EN ISO 10052:2004, EN ISO 10052:2004/A1:2010

English Version

Acoustics - Field measurements of airborne and impact sound insulation and of service equipment sound - Survey method (ISO 10052:2021)

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 10052:2021)

Akustik - Messung der Luftschalldämmung und Trittschalldämmung und des Schalls von haustechnischen Anlagen in Gebäuden - Kurzverfahren (ISO 10052:2021)

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Contents

Page

European foreword **3**

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European foreword

This document (EN ISO 10052:2021) 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of an identical text or by endorsement, at the latest by January 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

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

This document supersedes EN ISO 10052:2004.

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INTERNATIONAL STANDARD

ISO 10052

Second edition
2021-07

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

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

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Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Single number quantities **7**

5 Instrumentation **8**

6 Test procedure and evaluation **8**
- 6.1 General 8
- 6.2 Generation of sound field 8
  - 6.2.1 General 8
  - 6.2.2 Airborne sound insulation between rooms 9
  - 6.2.3 Impact sound insulation between rooms 9
  - 6.2.4 Airborne sound insulation of façades 9
- 6.3 Measurement of sound pressure levels 10
  - 6.3.1 Airborne and impact sound insulation between rooms 10
  - 6.3.2 Heavy/soft impact sound insulation between rooms 11
  - 6.3.3 Airborne sound insulation of façades 11
  - 6.3.4 Service equipment sound pressure level 12
- 6.4 Frequency range of measurements 12
- 6.5 Reverberation index data 12
- 6.6 Precision 16

7 Expression of results **16**
- 7.1 Airborne sound insulation 16
- 7.2 Impact sound insulation 16
- 7.3 Service equipment sound pressure level 16

8 Test report **17**

Annex A (informative) **Forms for the expression of results** **19**

Annex B (normative) **Operating conditions and operating cycles for measuring the maximum sound pressure level and the equivalent continuous sound pressure level** **26**

Bibliography **33**

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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).

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This document was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 2, *Building acoustics*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 126, *Acoustic properties of building products and of buildings,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 10052:2004), which has been technically revised.

The main changes compared to the previous edition are as follows:

— implementation of ISO 10052:2004/Amd 1:2010;

— references have been updated;

— added to the scope: for heavy/soft impact sound insulation, the results are given as A-weighted maximum levels;

— 2 terms added: maximum impact sound pressure level $L_{\mathrm{i},F\mathrm{max}}$ and A-weighted maximum impact sound pressure level $L_{\mathrm{iA},F\mathrm{max}}$;

— including heavy/soft impact sound test procedure and impact sound pressure level evaluation procedure;

— editorial updating.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document describes survey field 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 ISO 16283-1 and ISO 16283-2. Engineering methods for field measurements of airborne sound insulation of façade elements and façades are dealt with in ISO 16283-3. An engineering method for measurement of service equipment sound is dealt with in ISO 16032.

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

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 ISO 717-1 and ISO 717-2. For heavy/soft impact sound insulation, the results also are given as A-weighted maximum impact sound pressure level. For service equipment sound the results are given directly in *A* - or *C* -weighted sound pressure levels.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 10140-5:2021, *Acoustics — Laboratory measurement of sound insulation of building elements — Part 5: Requirements for test facilities and equipment*

ISO 16283-2:2020, *Acoustics — Field measurement of sound insulation in buildings and of building elements — Part 2: Impact sound insulation*

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.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

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