
Akustika - Merjenje zvočne izolirnosti v zgradbah in zvočne izolirnosti gradbenih elementov - 1. del - Zahteve za laboratorije z majhnim bočnim prenosom (ISO 140-1:1997)

Acoustics - Measurement of sound insulation in buildings and of building elements - Part 1: Requirements for laboratory test facilities with suppressed flanking transmission (ISO 140-1:1997)

Akustik - Messung der Schalldämmung in Gebäuden und von Bauteilen - Teil 1: Anforderungen an Prüfstände mit unterdrückter Flankenübertragung (ISO 140-1:1997)

Acoustique - Mesurage de l'isolement acoustique des immeubles et des éléments de construction - Partie 1: Spécifications relatives aux laboratoires sans transmissions latérales (ISO 140-1:1997)

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English version

Acoustics - Measurement of sound insulation in buildings and of building elements - Part 1: Requirements for laboratory test facilities with suppressed flanking transmission (ISO 140-1:1997)

Acoustique - Mesurage de l'isolement acoustique des immeubles et des éléments de construction - Partie 1: Spécifications relatives aux laboratoires sans transmissions latérales (ISO 140-1:1997)

This European Standard was approved by CEN on 2 October 1997.

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.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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EN ISO 140-1:1997

Foreword

The text of the International Standard ISO 140-1:1997 has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with Technical Committee CEN/TC 126 "Acoustic properties of building products 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 April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

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

Endorsement notice

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The text of the International Standard ISO 140-1:1997 was approved by CEN as a European Standard without any modification.

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NOTE: Normative references to International Standards are listed in annex ZA (normative).

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Annex ZA (normative)
Normative references to international publications
with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 140-3	1995	Acoustics - Measurements of sound insulation in buildings and of building elements - Part 3: Laboratory measurements of airborne sound insulation of building elements	EN ISO 140-3	1995
ISO 140-8	1997	Acoustics - Measurement of sound insulation in buildings and of building elements - Part 8: Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight standard floor	EN ISO 140-8	1997

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INTERNATIONAL STANDARD

ISO 140-1

Third edition
1997-10-15

Acoustics — Measurement of sound insulation in buildings and of building elements —

Part 1:

Requirements for laboratory test facilities with
suppressed flanking transmission

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*Acoustique — Mesurage de l'isolement acoustique des immeubles et des
éléments de construction —*

*Partie 1: Spécifications relatives aux laboratoires sans transmissions
latérales*
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A Estimation of the maximum achievable sound reduction index

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B Measurement of the sound reduction index of the filler wall (and any flanking construction) for test openings for windows and glazings

C Test opening for the measurement of the sound insulation of glazing

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 140-1 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 2, *Building acoustics*.

This third edition cancels and replaces the second edition (ISO 140-1:1990), which has been technically revised.

ISO 140 consists of the following parts, under the general title *Acoustics — Measurement of sound insulation in buildings and of building elements*:

- Part 1: Requirements of laboratory test facilities with suppressed flanking transmission
- Part 2: Determination, verification and application of precision data
- Part 3: Laboratory measurements of airborne sound insulation of building elements
- Part 4: Field measurements of airborne sound insulation between rooms
- Part 5: Field measurements of airborne sound insulation of facade elements and facades
- Part 6: Laboratory measurements of impact sound insulation of floors
- Part 7: Field measurements of impact sound insulation of floors
- Part 8: Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight standard floor
- Part 9: Laboratory measurement of room-to-room airborne sound insulation of a suspended ceiling with a plenum above it
- Part 10: Laboratory measurement of airborne sound insulation of small building elements
- Part 12: Laboratory measurement of room-to-room airborne and impact sound insulation of an access floor

Annexes A and B form an integral part of this part of ISO 140. Annex C is for information only.

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Acoustics — Measurement of sound insulation in buildings and of building elements —

Part 1:

Requirements for laboratory test facilities with suppressed flanking transmission

1 Scope

This part of ISO 140 lays down specifications concerning laboratory test facilities for sound insulation measurements of building elements. It applies to laboratory test facilities with suppressed radiation from flanking elements; and/ or structural isolation between source and receiving rooms.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 140. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 140 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

[SIST EN ISO 140-1:1998](https://standards.iteh.ai/catalog/standards/sist/b5b7edef-beee-451d-9365-7c01a0461e/sist-en-iso-140-1-1998)

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ISO 140-3:1995, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements.*

ISO 140-8:1997, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 8: Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight standard floor.*

3 Laboratory test facilities for airborne sound insulation measurements under diffuse field conditions

The laboratory test facility consists of two adjacent reverberant rooms with a test opening between them in which the test specimen is inserted.

3.1 Rooms

Volumes and corresponding dimensions of the two test rooms should not be exactly the same. A difference in room volumes and/or in the linear dimensions of at least 10 % is recommended. The volumes of the test rooms shall be at least 50 m³.

Choose the ratios of the room dimensions such that the modal frequencies in the low-frequency bands are spaced as uniformly as possible.