

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

Part 2: Determination, verification and application of precision data

The European Standard EN 20140-2:1993 has the status of a
British Standard

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National foreword

This British Standard has been prepared under the direction of the Environment and Pollution Standards Policy Committee. It is the English language version of EN 20140-2:1993 *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 2: Determination, verification and application of precision data*, published by the European Committee for Standardization (CEN), which is identical with ISO 140-2:1991, published by the International Organization for Standardization (ISO). It supersedes BS 2750-2:1980, which is withdrawn.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 16, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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English version

Acoustics — Measurement of sound insulation in
buildings and of building elements — Part 2:
Determination, verification and application of precision
data

(ISO 140-2:1991)

Acoustique — Mesurage de l'isolation
acoustique des immeubles et des éléments de
construction — Partie 2: Détermination,
vérification et application des données de
fidélité
(ISO 140-2:1991)

Akustik — Messung der Schalldämmung in
Bauten und von Bauteilen — Teil 2: Angabe
von Genauigkeitsanforderungen
(ISO 140-2:1991)

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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.

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CEN

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Europäisches Komitee für Normung

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Foreword

Following the positive result of primary questionnaire, CEN Technical Board decided to submit ISO 140-2:1991 *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 2: Determination, verification and application of precision data* to the formal vote. The result was positive.

This European Standard shall be given the status of a national standard, either publication of an identical text or by endorsement, at the latest by September 1993, and conflicting national standards shall be withdrawn at the latest by September 1993.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This part of ISO 140 specifies procedures for assessing the uncertainty in the acoustical measurements described in ISO 140-3 to ISO 140-9 due to random and systematic influences.

It gives guidelines for

- determination of the repeatability value r and the reproducibility value R ;
- verification of repeatability values r and reproducibility values R for different measurement arrangements in one laboratory and for comparisons between different laboratories;
- application of repeatability values r and reproducibility values R in practice.

Tentative repeatability values and reproducibility values of the test methods according to ISO 140-3, ISO 140-4 and ISO 140-6 to ISO 140-8 are given in Annex A.

NOTE 1 At present no data are available for ISO 140-5 and ISO 140-9.

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.

ISO 140-3:1978, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements.*

ISO 140-4:1978, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 4: Field measurements of airborne sound insulation between rooms.*

ISO 140-5:1978, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 5: Field measurements of airborne sound insulation of facade elements and facades.*

ISO 140-6:1978, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 6: Laboratory measurements of impact sound insulation of floors.*

ISO 140-7:1978, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 7: Field measurements of impact sound insulation of floors.*

ISO 140-8:1978, *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 standard floor.*

ISO 140-9:1985, *Acoustics — Measurements of sound insulation in buildings and of building elements — Part 9: Laboratory measurement of room-to-room airborne sound insulation of a suspended ceiling with a plenum above it.*

ISO 717-1:1982, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 1: Airborne sound insulation in buildings and of interior building elements.*

ISO 717-2:1982, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 2: Impact sound insulation.*

ISO 717-3:1982, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 3: Airborne sound insulation of facade elements and facades.*

ISO 5725:1986, *Precision of test methods — Determination of repeatability and reproducibility for a standard test method by inter-laboratory tests.*

3 Definitions

For the purposes of this part of ISO 140, the following definitions apply. Whenever applicable, they are equivalent to those given in ISO 3534, ISO 5725 and in the International vocabulary of basic and general terms in metrology.

3.1

test result, y

the final value obtained in a single frequency band by following the complete set of instructions given in a test method

NOTE 2 A set of test results is obtained since a determination is carried out in several frequency bands.