
Akustika - Ugotavljanje ravni zvočnih moči virov hrupa z merjenjem zvočnega tlaka - Inženirske metode za majhne premične vire v odmevnih poljih - 2. del: Metode za posebne odmevnice (ISO 3743-2:1994)

Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering methods for small, movable sources in reverberant fields - Part 2: Methods for special reverberation test rooms (ISO 3743-2:1994)

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Akustik - Bestimmung der Schalleistungspegel von Geräuschquellen aus Schalldruckmessungen - Verfahren der Genauigkeitsklasse 2 für kleine, transportable Quellen in Hallfeldern - Teil 2: Verfahren für Sonder-Hallräume (ISO 3743-2:1994)

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Acoustique - Détermination des niveaux de puissance acoustique émis par les sources de bruit à partir de la pression acoustique - Méthodes d'expertise en champ réverbéré applicables aux petites sources transportables - Partie 2: Méthodes en salle d'essai réverbérante spéciale (ISO 3743-2:1994)

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ICS:

17.140.01	Akustična merjenja in blaženje hrupa na splošno	Acoustic measurements and noise abatement in general
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EUROPEAN STANDARD

EN ISO 3743-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1996

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English version

**Acoustics - Determination of sound power levels
of noise sources using sound pressure -
Engineering methods for small, movable sources
in reverberant fields - Part 2: Methods for special
reverberation test rooms (ISO 3743-2:1994)**

Acoustique - Détermination des niveaux de
puissance acoustique émis par les sources de
bruit à partir de la pression acoustique -
Méthodes d'expertise en champ réverbère
applicables aux petites sources transportables
- Partie 2: Méthodes en salle d'essai
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Akustik - Bestimmung der Schalleistungspegel
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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

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

Page 2
EN ISO 3743-2:1996

Foreword

The text of the International Standard from Technical Committee ISO/TC 43 "Acoustics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 211 "Acoustics", the secretariat of which is held by DS.

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 February 1997, and conflicting national standards shall be withdrawn at the latest by February 1997.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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 the United Kingdom.

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The text of the International Standard ISO 3743-2:1994 has been approved by CEN as a European Standard without any modification.

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

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 (including amendments).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 3741	1988	Acoustics - Determination of sound power levels of noise sources - Precision methods for broad-band sources in reverberation rooms	EN 23741	1991
ISO 3743-1	1994	Acoustics - Determination of sound power levels of noise sources - Engineering methods for small, movable sources in reverberant fields - Part 1: Comparison method for hard-walled test rooms	EN ISO 23743-1	1995
ISO 7574-1	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 1: General considerations and definitions	EN 27574-1	1988
ISO 7574-4	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 4: Methods for stated values for batches of machines	EN 27574-4	1988

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INTERNATIONAL
STANDARD**ISO**
3743-2First edition
1994-11-01

**Acoustics — Determination of sound
power levels of noise sources using sound
pressure — Engineering methods for
small, movable sources in reverberant
fields —**

Part 2:**Methods for special reverberation test rooms**

<https://standards.iteh.ai/catalog/standards/sist/en-iso-3743-2-1997/f06d61af62e3/sist-en-iso-3743-2-1997>

*Acoustique — Détermination des niveaux de puissance acoustique émis
par les sources de bruit à partir de la pression acoustique — Méthodes
d'expertise en champ réverbéré applicables aux petites sources
transportables —*

Partie 2: Méthodes en salle d'essai réverbérante spéciale

Reference number
ISO 3743-2:1994(E)

ISO 3743-2:1994(E)**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 3743-2 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This first edition cancels and replaces the ISO 3743:1988, of which it constitutes a minor revision.

ISO 3743 consists of the following parts, under the general title *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields*:

- Part 1: *Comparison method for hard-walled test rooms*
- Part 2: *Methods for special reverberation test rooms*

Annex A forms an integral part of this part of ISO 3743. Annexes B, C and D are for information only.

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Introduction

0.1 ISO 3743 is one of the ISO 3740 series, which specifies various methods for determining the sound power levels of machines, equipment and sub-assemblies. These basic standards specify the acoustical requirements for measurements appropriate for different test environments as shown in table 0.1. When selecting one of the methods of the ISO 3740 series, it is necessary to select the most appropriate for the conditions and purposes of the noise test. General guidelines to assist in the selection are provided in ISO 3740. The ISO 3740 series gives only general principles regarding the operating and mounting conditions of the machine or equipment under test. Reference should be made to the noise test code for a specific type of machine or equipment, if available, for specifications on mounting and operating conditions.

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0.2 The method given in this part of ISO 3743 enables measurement of sound pressure levels with A-weighting and in octave bands at prescribed fixed microphone positions or along prescribed paths. It allows determination of A-weighted sound power levels or sound power levels with other weighting and octave-band sound power levels. Quantities which cannot be determined are the directivity characteristics of the source and the temporal pattern of noise radiated by sources emitting non-steady noise.

0.3 Parts 1 and 2 of ISO 3743 specify engineering methods for determining the A-weighted and octave-band sound power levels of small noise sources. The methods are applicable to small machines, devices, components and sub-assemblies which can be installed in a special reverberation test room or in a hard-walled test room with prescribed acoustical characteristics. The methods are particularly suitable for small items of portable equipment; they are not intended for larger pieces of stationary equipment which, due to their manner of operation or installation, cannot readily be moved into the test room and operated as in normal usage. The procedures are intended to be used when an engineering grade of accuracy is desired without requiring the use of laboratory facilities.

0.4 In ISO 3743-1, a comparison method is used to determine the octave-band sound power levels of the source. The spatial average (octave-band) sound pressure levels produced by the source under test are compared to the spatial average (octave-band) sound pressure levels produced by a reference sound source of known sound power output. The difference in sound pressure levels is equal to the difference in sound power levels if conditions are the same for both sets of measurements. The A-weighted sound power level is then calculated from the octave-band sound power levels.

The requirements to be fulfilled by the special reverberation test room for measurements in accordance with this part of ISO 3743 are significantly more restrictive than those placed on the hard-walled test room by the comparison method of ISO 3743-1.

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International Standard	Classification of method ¹⁾	Test environment	Volume of source	Character of noise	Sound power levels obtainable	Optional information available
3741	Precision (grade 1)	Reverberation room meeting specified requirements	Preferably less than 1 % of test room volume	Steady, broad-band	In one-third-octave or octave bands	A-weighted sound power level
3742				Steady, discrete frequency or narrow-band		
3743-1	Engineering (grade 2)	Hard-walled test room	Preferably less than 1 % of test room volume	Steady, broad-band, narrow-band, or discrete frequency	A-weighted and in octave bands	Other weighted sound power levels
3743-2		Special reverberation test room				
3744	Engineering (grade 2)	Outdoors or in large room	Greatest dimension less than 15 m	Any	A-weighted and in one-third-octave or octave bands	Directivity information and sound pressure levels as a function of time; other weighted sound power levels
3745	Precision (grade 1)	Anechoic or semi-anechoic room	Preferably less than 0,5 % of test room volume	Any		
3746	Survey (grade 3)	No special test environment	No restrictions: limited only by available test environment	Any	A-weighted	Sound pressure levels as a function of time; other weighted sound power levels
3747	Survey (grade 3)	No special test environment; source under test not movable	No restrictions	Steady, broad-band, narrow-band, or discrete frequency	A-weighted	Sound power levels in octave bands

1) See ISO 2204.

Table 0.1 — International Standards specifying various methods for determining the sound power levels of machines and equipment

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