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SANS 3743-2:1994

Edition 1 and nat. amdt 1

ISO 3743-2:1994

Edition 1

Any reference to SABS ISO 3743-2 is deemed
to be a reference to this standard
(Government Notice No. 1373 of 8 November 2002)

SOUTH AFRICAN NATIONAL STANDARD

**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**

This national standard is the identical implementation of ISO 3743-2:1994 and is adopted with the permission of the International Organization for Standardization.

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Table of changes

Change No.	Date	Scope
Nat. amdt 1	2006	Amended to change the designation from SABS to SANS, with no technical changes.

National foreword

This South African standard was approved by National Committee SABS TC 76, *Acoustics, electro-acoustics and vibration*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This part of SANS 3743 was published in December 2006. This SANS edition is technically identical to the first SABS edition (SABS ISO 3743-2:1994), with the addition of national amendment 1.

**Reaffirmed and reprinted in August 2012.
This document will be reviewed every five years and
either be reaffirmed, amended, revised or withdrawn.**

INTERNATIONAL STANDARD

ISO
3743-2

First 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

*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.

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.