



SLOVENSKI STANDARD SIST EN ISO 354:2004

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SIST EN 20354:1998
SIST EN 20354:1998/A1:1998

Akustika - Merjenje absorpcije zvoka v odmevnici - (ISO 354:2003)

Acoustics - Measurement of sound absorption in a reverberation room (ISO 354:2003)

Akustik - Messung der Schallabsorption in Hallräumen (ISO 354:2003)

Acoustique - Mesurage de l'absorption acoustique en salle réverbérante (ISO 354:2003)

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91.120.20	Acoustics in building. Sound insulation

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English version

**Acoustics - Measurement of sound absorption in a reverberation
room (ISO 354:2003)**

Acoustique - Mesurage de l'absorption acoustique en salle
réverbérante (ISO 354:2003)

Akustik - Messung der Schallabsorption in Hallräumen
(ISO 354:2003)

This European Standard was approved by CEN on 23 April 2003.

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 Management Centre 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN ISO 354:2003) 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 November 2003, and conflicting national standards shall be withdrawn at the latest by November 2003.

This document supersedes EN ISO 354:1993.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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Endorsement notice

The text of ISO 354:2003 has been approved by CEN as EN ISO 354:2003 without any modifications.

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 (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 266	1997	Acoustics - Preferred frequencies	EN ISO 266	1997

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absorption in a reverberation room**

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Contents

Page

Foreword.....	iv
Introduction	v
1 Scope.....	1
2 Normative references	1
3 Terms and definitions.....	1
4 Principle	3
5 Frequency range	3
6 Test arrangement.....	3
6.1 Reverberation room and diffusion of sound field	3
6.2 Test specimens	4
6.3 Temperature and relative humidity	5
7 Measurement of reverberation time.....	5
7.1 General	5
7.2 Interrupted noise method.....	6
7.3 Integrated impulse response method.....	7
7.4 Evaluation of reverberation times based on decay curves	9
8 Expression of results.....	9
8.1 Method of calculation	9
8.2 Precision	11
8.3 Presentation of results	12
9 Test report	13
Annex A (normative) Diffusivity of the sound field in the reverberation room.....	14
Annex B (normative) Test specimen mountings for sound absorption tests.....	15
Bibliography	21

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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

ISO 354 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 2, *Building acoustics*.

This second edition cancels and replaces the first edition (ISO 354:1985), which has been technically revised, as follows:

- an integrated impulse response method has been introduced;
- the requirement to measure at least 36 decays has been added;
- mounting conditions according to ISO 354:1985:Amd.1:1997 and mounting conditions Type B and Type J have been introduced.

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Introduction

When a sound source operates in an enclosed space, the level to which reverberant sound builds up, and the subsequent decay of reverberant sound when the source is stopped, are governed by the sound-absorbing characteristics of the boundary surfaces, the air filling the space, and objects within the space. In general, the fraction of the incident sound power absorbed at a surface depends upon the angle of incidence. In order to relate the reverberation time of an auditorium, office, workshop, etc., to the noise reduction that would be effected by an absorbing treatment, knowledge of the sound-absorbing characteristics of the surfaces, usually in the form of a suitable average over all angles of incidence, is required. Since the distribution of sound waves in typical enclosures includes a wide and largely unpredictable range of angles, a uniform distribution is taken as the basic condition for the purposes of standardization. If, in addition, the sound intensity is independent of the location within the space, the sound distribution is called a diffuse sound field, and the sounds reaching a room surface are said to be at random incidence.

The sound field in a properly designed reverberation room closely approximates a diffuse field. Hence, sound absorption measured in a reverberation room closely approximates the sound absorption that would be measured under the basic conditions assumed for standardization.

The purpose of this International Standard is to promote uniformity in the methods and conditions of measurement of sound absorption in reverberation rooms.

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