



SLOVENSKI STANDARD SIST EN ISO 11546-1:1997

01-april-1997

Akustika - Ugotavljanje zvočno izolacijskih lastnosti okrovov - 1. del: Merjenje v laboratorijskih razmerah (ISO 11546-1:1995)

Acoustics - Determination of sound insulation performances of enclosures - Part 1: Measurements under laboratory conditions (for declaration purposes) (ISO 11546-1:1995)

Akustik - Bestimmung der Schalldämmung von Schallschutzkapseln - Teil 1: Messungen unter Laborbedingungen (Zum Zweck der Kennzeichnung) (ISO 11546-1:1995)

Acoustique - Détermination de l'isolement acoustique des encoffrements - Partie 1: Mesurages dans des conditions de laboratoire (aux fins de déclaration) (ISO 11546-1:1995)

Ta slovenski standard je istoveten z: EN ISO 11546-1:1995

ICS:

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

SIST EN ISO 11546-1:1997

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11546-1:1997](#)

<https://standards.iteh.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-768285a569f4/sist-en-iso-11546-1-1997>

EUROPEAN STANDARD

EN ISO 11546-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1995

ICS 17.140.10

Descriptors: see ISO document

English version

Acoustics - Determination of sound insulation performances of enclosures - Part 1: Measurements under laboratory conditions (for declaration purposes) (ISO 11546-1:1995)

Acoustique - Détermination de l'isolement acoustique des encoffrements - Partie 1: Mesurages dans des conditions de laboratoire (aux fins de déclaration) (ISO 11546-1:1995)

Akustik - Bestimmung der Schalldämmung von Schallschutzkapseln - Teil 1: Messungen unter Laborbedingungen (Zum Zweck der Kennzeichnung) (ISO 11546-1:1995)

(standards.iteh.ai)

SIST EN ISO 11546-1:1997

<https://standards.iteh.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-768285a569f4/sist-en-iso-11546-1-1997>

This European Standard was approved by CEN on 1995-08-18. 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.

The European Standards exist 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.

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

CEN

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

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

© 1995

All rights of reproduction and communication in any form and by any means reserved in all countries to CEN and its members.

Ref. No. EN ISO 11546-1:1995 E

Page 2
EN ISO 11546-1:1995

Foreword

The text of the International Standard ISO 11546-1:1995 has been prepared by the Technical Committee ISO/TC 43 "Acoustics" in collaboration with the Technical Committee CEN/TC 211 "Acoustics".

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 June 1996, and conflicting national standards shall be withdrawn at the latest by June 1996.

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 EC Directive(s).

According to 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 the United Kingdom.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of the International Standard ISO 11546-1:1995 has been approved by CEN as a European Standard without any modification. 11546-1:1997

<https://standards.iteh.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-768285a569f4/sist-en-iso-11546-1-1997>

MODIFIED

Foreword

The text of the International Standard ISO 11546-1:1995 has been prepared by Technical Committee ISO/TC 43 "Acoustics", in collaboration with the 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 June 1996, and conflicting national standards shall be withdrawn at the latest by June 1996.

This European Standard has been prepared under a mandate given to the 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.

iTeh STANDARD PREVIEW

Endorsement notice

The text of the International Standard ISO 11546-1:1995 has been approved by CEN as a European Standard without any modification.

[SIST EN ISO 11546-1:1997](https://standards.itih.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-11546-1)[https://standards.itih.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-](https://standards.itih.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-11546-1)

NOTE: Normative references to international publications 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.

Publication	Year	Title	EN	Year
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 3742	1988	Acoustics - Determination of sound power levels of noise sources - Precision methods for discrete-frequency and narrow-band sources in reverberation rooms	EN 23742	1991
ISO 3743-1	1994	Acoustics - Determination of sound power levels of noise sources - Engineering methods for small, movable source in reverberant fields - Part 1: Comparison method for had walled test rooms	EN ISO 3743-1	1995
ISO 3744	1994	Acoustics - Determination of sound power levels of noise sources - Engineering method in an essentially free field over a reflecting plane	EN ISO 3744	1995
ISO 11201	1995	Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Engineering method in an essentially free field over a reflecting plane	EN ISO 11201	1995
ISO 11204	1995	Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Method requiring environmental corrections	EN ISO 11204	1995

INTERNATIONAL
STANDARD

ISO
11546-1

First edition
1995-12-15

**Acoustics — Determination of sound
insulation performances of enclosures —**

Part 1:

Measurements under laboratory conditions
(for declaration purposes)

SIST EN ISO 11546-1:1997

<https://standards.iteh.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-76828556994/sist-en-iso-11546-1-1997>
Acoustique — Détermination de l'isolement acoustique des
encoffrements

*Partie 1: Mesurages dans des conditions de laboratoire (aux fins de
déclaration)*



Reference number
ISO 11546-1:1995(E)

Contents

	Page
1 Scope	1
2 Normative references	1
3 Definitions	2
4 Choice of measurement method	3
5 Instrumentation	4
6 Test methods applicable to enclosures with the actual sound source	5
6.1 General	5
6.2 Determination of sound power insulation	5
6.3 Determination of sound pressure insulation at a specified position	6
7 Test methods applicable to enclosures without the actual sound source	6
7.1 General	6
7.2 Reciprocity method	6
7.3 Artificial sound source method	7
7.4 Weighted sound power insulation and sound pressure insulation (reciprocity method)	8
7.5 Estimated noise insulation due to the enclosure for a specific noise spectrum	8
8 Uncertainty	8
9 Information to be recorded	8
9.1 Test object	8
9.2 Test conditions	8
9.3 Instrumentation	9
9.4 Acoustical data	9
9.5 Further information	9

© ISO 1995

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

10	Information to be reported	9
-----------	----------------------------------	----------

Annexes

A	Artificial sound source	10
B	Example of a source spectrum	12
C	Estimated noise insulation due to the enclosure for a specific noise spectrum	13
D	Bibliography	14

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11546-1:1997](https://standards.iteh.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-768285a569f4/sist-en-iso-11546-1-1997)

<https://standards.iteh.ai/catalog/standards/sist/ea3f2898-ad36-4525-b390-768285a569f4/sist-en-iso-11546-1-1997>

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 11546-1 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

ISO 11546 consists of the following parts, under the general title *Acoustics — Determination of sound insulation performances of enclosures*:

- *Part 1: Measurements under laboratory conditions (for declaration purposes)*
- *Part 2: Measurements in situ (for acceptance and verification purposes)*

Annex A forms an integral part of this part of ISO 11546. Annexes B, C and D are for information only.

Acoustics — Determination of sound insulation performances of enclosures —

Part 1:

Measurements under laboratory conditions (for declaration purposes)

1 Scope

This part of ISO 11546 specifies laboratory methods for the determination of the sound insulation performance (insertion loss) of small machine enclosures.

It applies to a total enclosure only and not to the individual panels from which the enclosure is made.

NOTES

1 Sound insulation for enclosure panels such as wall elements, doors, windows, silencers, etc. should be measured in accordance with other relevant standards.

2 Related standards concern noise-attenuation measurements of enclosures *in situ* (ISO 11546-2) and cabins (ISO 11957).

The measurement methods specified in this part of ISO 11546 are based on International Standards in the series ISO 3740, ISO 9614 and ISO 11200 (see table 1). Depending on the method chosen, the sound insulation performance (insertion loss) of the enclosure is determined in terms of the reduction of sound power level or sound pressure level. Methods are given for measurements where the enclosure surrounds the actual sound source (machine). Where these methods are not practicable, alternative measurements can be performed using a reciprocity method (see definition 3.11 and subclause 7.2) or an artificial sound source.

This part of ISO 11546 is applicable without any restrictions to freestanding enclosures with volumes less than 2 m³. If the actual sound source is used, the sound insulation performance of enclosures with volumes exceeding 2 m³ can be determined provided that the requirements concerning maximum permissible volume in the standard used are fulfilled. The actual sound source method is applicable for any kind of enclosure design, for example enclosures fixed to the machine.

When the reciprocity method or the artificial sound source method is used, the maximum volume of the enclosure is limited to 2 m³. These methods are not applicable to close-fitting enclosures.

The wording "laboratory conditions" used in the title of this part of ISO 11546 indicates that test conditions and test environment (indoor or outdoor) fully conform to the respective International Standards given in table 1.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 11546. 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 11546 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.