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Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995)

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Akustik - Richtlinien für die Konstruktion lärmarmen Maschinen und Geräte - Teil 1: Planung (ISO/TR 11688-1:1995)

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Acoustique - Pratique recommandée pour la conception de machines et d'équipements à bruit réduit - Partie 1: Planification (ISO/TR 11688-1:1995)

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Ta slovenski standard je istoveten z: EN ISO 11688-1:2009

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
21.020	Z) æ ä] [• çä Á æ d çæ þ • d [b çä æ æ çä] ! ^ { ^	Characteristics and design of machines, apparatus, equipment

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 11688-1

August 2009

ICS 17.140.20; 21.020

Supersedes EN ISO 11688-1:1998

English Version

**Acoustics - Recommended practice for the design of low-noise
machinery and equipment - Part 1: Planning (ISO/TR 11688-
1:1995)**

Acoustique - Pratique recommandée pour la conception de
machines et d'équipements à bruit réduit - Partie 1:
Planification (ISO/TR 11688-1:1995)

Akustik - Richtlinien für die Konstruktion lärmarmen
Maschinen und Geräte - Teil 1: Planung (ISO/TR 11688-
1:1995)

This European Standard was approved by CEN on 3 August 2009.

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

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

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

The text of ISO/TR 11688-1:1995 has been prepared by Technical Committee ISO/TC 43 "Acoustics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11688-1:2009 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 January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

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

This document supersedes EN ISO 11688-1:1995.

This document 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 Directives.

For relationship with EC Directives, see informative Annexes ZA and ZB, which are integral parts of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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Endorsement notice

The text of ISO/TR 11688-1:1995 has been approved by CEN as a EN ISO 11688-1:2009 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 98/37/EC, amended by 98/79/EC on machinery.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

WARNING - Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

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Annex ZB (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

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TECHNICAL
REPORT

ISO
TR 11688-1

First edition
1995-03-15

**Acoustics — Recommended practice for
the design of low-noise machinery and
equipment —**

Part 1:
Planning
iTeH STANDARD PREVIEW
(standards.iteh.ai)

<https://standards.iteh.ai/standards/standard/SIST-EN-ISO-11688-1-2009>
SIST EN ISO 11688-1:2009
*Acoustique — Pratique recommandée pour la conception de machines et
d'équipements à bruit réduit —*
Partie 1: Planification



Reference number
ISO/TR 11688-1:1995(E)

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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.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 11688-1, which is a Technical Report of type 3, was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

ISO 11688 consists of the following parts, under the general title *Acoustics — Recommended practice for the design of low-noise machinery and equipment*:

- *Part 1: Planning*
[Technical Report]
- *Part 2: Introduction into physics of low-noise design*

Introduction

This International Technical Report provides a guideline for the design of low-noise machinery. Most of the existing International Technical Reports prepared in ISO/TC 43/SC 1 specify methods for the measurement and/or evaluation of noise. The final objective of this International Technical Report, however, will be noise control in existing machinery and noise control at the design stage.

It is important that non-acoustic engineers are engaged in noise control practice. It is of great importance for these engineers to have a basic knowledge of noise generation and propagation characteristics and to understand the basic principles of noise control measures. Hence, this International Technical Report also serves as an introduction into acoustical terms, and as a basis to the acquisition of further knowledge in noise control.

It is strongly required to support the dissemination of the design rules given here through standardisation.

[SIST EN ISO 11688-1:2009](https://standards.iteh.ai/catalog/standards/sist/43c3c2b3-fe30-4d73-8951-1009)

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Such considerations have led to the preparation of International Technical Reports in the area of noise control.

Acoustics — Recommended practice for the design of low-noise machinery and equipment —

Part 1: Planning

1 Scope

This International Technical Report is an aid to understanding the basic concepts of noise control in machinery and equipment.

The recommended practice presented here is intended to assist the designer at any design stage to control the noise of the final product. Methodical development of products was chosen as a basis for the structure of this document (see Clause 4).

The list of design rules given in this International Technical Report is not exhaustive. Other technical measures for reducing noise at the design stage may be used if their efficacy is identical or higher.

To solve problems going beyond the scope of this International Technical Report, the designer can refer to the bibliography in Annex D, which presents the general state of acoustic handbooks at the time of publication. Furthermore, reference is made to the numerous technical publications dealing with acoustical problems.

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2 References

ISO 3744:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane.*

ISO 3746:—¹⁾, *Acoustics — Determination of sound power levels of noise sources — Survey method employing an enveloping measurement surface over a reflecting plane.*

ISO 4871:—¹⁾, *Acoustics — Declaration and verification of noise emission values of machinery and equipment.*

ISO 9611:—¹⁾, *Acoustics — Characterization of sources of structure-borne sound with respect to the airborne sound radiation of connected structures — Measurement of velocity at the contact points of machinery when resiliently mounted.*

ISO 9614-1:1994, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points.*

ISO 9614-2:—¹⁾, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning.*

1) To be published.