
Akustika - Priporočena praksa za oblikovanje tihih delovnih mest - 1. del:
Strategija obvladovanja hrupa (ISO 11690-1:1996)

Acoustics - Recommended practice for the design of low-noise workplaces containing machinery - Part 1: Noise control strategies (ISO 11690-1:1996)

Akustik - Richtlinien für die Gestaltung lärmarmen maschinenbestückter Arbeitsstätten - Teil 1: Allgemeine Grundlagen (ISO 11690-1:1996)

Acoustique - Pratique recommandée pour la conception de lieux de travail a bruit réduit contenant des machines - Partie 1: Stratégies de réduction du bruit (ISO 11690-1:1996)

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Ta slovenski standard je istoveten z: EN ISO 11690-1:1996

ICS:

13.140	Vpliv hrupa na ljudi	Noise with respect to human beings
17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment

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EUROPEAN STANDARD

EN ISO 11690-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 1996

ICS 13.140; 17.140.10

Descriptors: See ISO document

English version

**Acoustics - Recommended practice for the design
of low-noise workplaces containing machinery -
Part 1: Noise control strategies
(ISO 11690-1:1996)**

Acoustique - Pratique recommandée pour la
conception de lieux de travail à bruit réduit
contenant des machines - Partie 1: Stratégies
de réduction du bruit (ISO 11690-1:1996)

Akustik - Richtlinien für die Gestaltung
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This European Standard was approved by CEN on 1996-10-16. 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

Foreword

The text of the International Standard ISO 11690-1:1996 has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with 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 May 1997, and conflicting national standards shall be withdrawn at the latest by May 1997.

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.

Endorsement notice

The text of the International Standard ISO 11690-1:1996 was approved by CEN as a European Standard without any modification.

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.

<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 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 sources in reverberant fields - Part 1: Comparison method for hard-walled test rooms	EN ISO 3743-1	1995
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	EN ISO 3743-2	1996
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	EN ISO 3744	1995
ISO 3746	1995	Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane	EN ISO 3746	1995
ISO 9614-1	1993	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points	EN ISO 9614-1	1995
ISO 9614-2	1996	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 2: Measurement by scanning	EN ISO 9614-2	1996
ISO 11200	1995	Acoustics - Noise emitted by machinery and equipment - Guidelines for the use of basic standards for the determination of emission sound pressure levels at a work station and at other specified positions	EN ISO 11200	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 11202	1995	Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Survey method in situ	EN ISO 11202	1995
ISO 11203	1995	Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions from the sound power levels	EN ISO 11203	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
ISO 11689	1996	Acoustics - Procedure for the comparison of noise-emission data for machinery and equipment	EN ISO 11689	1996
ISO 11690-2	1996	Acoustics - Recommended practice for the design of low-noise workplaces containing machinery - Part 2: Noise control measures	EN ISO 11690-2	1996

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INTERNATIONAL STANDARD

ISO
11690-1

First edition
1996-11-01

Acoustics — Recommended practice for the design of low-noise workplaces containing machinery —

Part 1: Noise control strategies

iTeh STANDARD PREVIEW

*Acoustique — Pratique recommandée pour la conception de lieux de travail
à bruit réduit contenant des machines —*

Partie 1: Stratégie de réduction du bruit

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International Organization for Standardization

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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.

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 11690-1 was prepared by Technical Committee ISO/TC 43, Acoustics, Subcommittee SC 1, Noise.

ISO 11690 consists of the following parts, under the general title *Acoustics — Recommended practice for the design of low-noise workplaces containing machinery*:

- *Part 1: Noise control strategies*
- *Part 2: Noise control measures*
- *Part 3: Sound propagation and noise prediction in workrooms*

Part 1 is the central document in the series. Parts 2 and 3 give additional technical and explanatory information. It is therefore recommended to start with part 1.

Annex A of this part of ISO 11690 is for information only.

Introduction

Most of the existing International Standards prepared in ISO/TC 43/SC 1 specify methods for measurement and/or evaluation of noise. The final objective of ISO 11690, however, is noise reduction.

A number of noise control measures are offered. However, in order to be effective, the most appropriate noise control measure(s) should be chosen for a given situation.

It is important when non-acoustic engineers are involved in noise control practice for these engineers to have a basic knowledge of noise emission and propagation characteristics and to understand the basic principles of noise control.

To assist in the development of noise control in the workplace, it is essential that the information contained in these recommended practices is disseminated through International Standards.

In order to reduce noise as a hazard in the workplace, individual countries have produced national legislation. Generally, such national legislation requires noise control measures to be carried out in order to achieve the lowest reasonable levels of noise emission, noise immission and noise exposure, taking into account:

- known available measures;
- the state of the art regarding technical progress;
- the treatment of noise at source;
- appropriate planning, procurement and installation of machines and equipment.

This part of ISO 11690, together with the two other parts in the series, outlines procedures to be considered when dealing with noise control at workplaces, within workrooms and in the open. These recommended practices give in relatively simple terms the basic information necessary for all parties involved in noise control in workplaces and in the design of low-noise workplaces to promote the understanding of the desired noise control requirements.

The purpose of the ISO 11690 series is to bridge the gap between existing literature on noise control and the practical implementation of noise control measures. In principle, the series applies to all workplaces and its main function is:

- to provide simple, brief information on some aspects of noise control in workplaces;
- to act as a guide to help in the understanding of requirements in standards, directives, text books, manuals, reports and other specialized technical documents;

- to provide assistance in decision making when assessing the various measures available.

The ISO 11690 series should be useful to persons such as plant personnel, health and safety officers, engineers, managers, staff in planning and purchasing departments, architects and suppliers of plants, machines and equipment. However, the above-mentioned parties should keep in mind that adherence to the recommendations of the ISO 11690 series is not all that is necessary to create a safe workplace.

The effects of noise on health, well-being and human activity are many. By giving guidelines for noise control strategies and measures, the ISO 11690 series aims at a reduction of the impact of noise on human beings at workplaces. Assessment of the impact of noise on human beings is dealt with in other documents.

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