

**Akustika. Soovitused madala
müratasemega seadmete ja varustuse
loomiseks. Osa 2: Madala mürataseme
saavutamise füüsilised omadused (ISO/TR
11688-2:1988)**

Acoustics - Recommended practice for the design of
low-noise machinery and equipment - Part 2:
Introduction to the physics of low-noise design

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 11688-2:2001 sisaldab Euroopa standardi EN ISO 11688-2:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.05.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 11688-2:2001 consists of the English text of the European standard EN ISO 11688-2:2000.</p> <p>This document is endorsed on 18.05.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This standard is an aid to understanding the basic concepts of noise control in machinery equipment. The recommended practice presented here is intended to assist the designer at any design stage control noise of the final product.</p>	<p>Scope:</p> <p>This standard is an aid to understanding the basic concepts of noise control in machinery equipment. The recommended practice presented here is intended to assist the designer at any design stage control noise of the final product.</p>
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ICS 17.140.20, 21.020

Võtmesõnad: acoustics, design, engine noise, equipment, machinery, noise (sound)

ICS 17.140.20; 21.020

English version

Acoustics

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

**Part 2: Introduction to the physics of low-noise design
(ISO/TR 11688-2 : 1998)**

Acoustique – Pratique recommandée
pour la conception de machines et
équipements à bruit réduit –
Partie 2: Introduction à la physique de
la conception à bruit réduit
(ISO/TR 11688-2 : 1998)

Akustik – Richtlinien für die Gestaltung
lärmarmen Maschinen und Geräte –
Teil 2: Einführung in die Physik der
Lärminderung durch konstruktive
Maßnahmen (ISO/TR 11688-2 : 1998)

This European Standard was approved by CEN on 1999-09-17.

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Europäisches Komitee für Normung

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Foreword

International Standard

ISO/TR 11688-2 : 1998 Acoustics – Recommended practice for the design of low-noise machinery and equipment – Part 2: Introduction to the physics of low-noise design,

which was prepared by ISO/TC 43 'Acoustics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 211 'Acoustics', the Secretariat of which is held by DS, as a European Standard.

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 the relevant EU Directive.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO/TR 11688-2 : 1998 has been approved by CEN as a European Standard without any modification.

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Introduction

The objective of this part of ISO/TR 11688 is noise reduction in existing machinery and noise control at the design stage of new machinery.

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 principles of noise control measures.

1 Scope

This part of ISO/TR 11688 provides the physical background for the low-noise design rules and examples given in ISO/TR 11688-1¹⁾ and supports the use of extensive special literature.

It is intended for use by designers of machinery and equipment as well as users and/or buyers of machines and authorities in the field of legislation, supervision or inspection.

Equations given in this Technical Report will improve the general understanding of noise control. In many cases they allow a comparison of different versions of design, but they are not useful for the prediction of absolute noise emission values.

Information on internal sound sources, transmission paths and sound radiating parts of a machine is the basis for noise control in machines. Therefore measurement methods and computational methods suitable to obtain this information are described in clauses 7 and 8 and annex A.

2 References

See ISO/TR 11688-1 and the bibliography.

3 Definitions

See ISO/TR 11688-1 and annex A.

4 Acoustical modelling

In order to facilitate the understanding of complex sound generation and propagation mechanisms in machinery and equipment or vehicles (the latter are also called "machines" in this part of ISO/TR 11688), it is necessary to create simple acoustical models. The models provide a basis for noise control measures at the design stage.

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