
Akustika - Emisija hrupa naprav in opreme - Merjenje emisijske ravni zvočnega tlaka na mestu delovanja in na drugih opredeljenih mestih - Metoda z upoštevanjem popravkov zaradi okolja (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 (ISO 11204:1995)

Akustik - Geräuschabstrahlung von Maschinen und Geräten - Messung von Emissions-Schalldruckpegeln am Arbeitsplatz und an anderen festgelegten Orten - Verfahren mit Umgebungskorrekturen (ISO 11204:1995)

Acoustique - Bruit émis par les machines et équipements - Mesurage des niveaux de pression acoustique d'émission au poste de travail et en d'autres positions spécifiées - Méthode nécessitant des corrections d'environnement (ISO 11204:1995)

Ta slovenski standard je istoveten z: EN ISO 11204:1995

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
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EUROPEAN STANDARD

EN ISO 11204

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1996

ICS 17.140.00

Descriptors: acoustics, operating stations, human factors engineering, noise : sound, engine noise, acoustic measurements, sound pressure, level quantity, correction : errors, environments

English version

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 (ISO 11204:1995)

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CEN

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

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EN 11204:1995

Foreword

The text of the International Standard ISO 11204:1995 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of an identical text or by endorsement, at the latest by June 1996, and conflicting national standards shall be withdrawn at the latest by June 1996.

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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 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 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

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NOTE: Normative references to International Standards are listed in annex ZA (normative).

INTERNATIONAL
STANDARD

ISO
11204

First edition
1995-12-15

**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**

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*Acoustique — Bruit émis par les machines et équipements — Mesurage
des niveaux de pression acoustique d'émission au poste de travail et en
d'autres positions spécifiées — Méthode nécessitant des corrections
d'environnement*



Reference number
ISO 11204:1995(E)

ISO 11204:1995(E)**Foreword**

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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 11204 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

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

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Introduction

0.1 This International Standard specifies a method for measuring the emission sound pressure levels at a work station and at other specified positions in the vicinity of a machine or piece of equipment. The method specified in this International Standard follows the method specified in ISO 11201 (engineering method), except for the following:

- a) measurements are permitted *in situ*; and
- b) a method is specified for determining a local environmental correction which yields results approximating those obtained in a free field over a reflecting plane. This correction is used to derive the emission sound pressure levels at specified positions, including work stations. If this correction is less than the specified value, the results meet the engineering grade of accuracy, but otherwise they meet the survey grade.

0.2 This International Standard is one of a series (ISO 11200 to ISO 11204) which specifies various methods for determining the noise emissions of a piece of machinery or equipment, or a sub-assembly of such equipment (machine under test). ISO 11200 gives guidance on the choice of the method to be used to determine the emission sound pressure levels of machinery and equipment. It also gives details of International Standards giving methods for the determination of sound power levels.

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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

1 Scope

1.1 General

This International Standard specifies a method for measuring the emission sound pressure levels of machinery and equipment, at a work station and at other specified positions nearby, in any environment which meets certain qualification requirements.

Emission sound pressure levels are measured as A-weighted and, if required, C-weighted peak, and in frequency bands.

NOTE 1 The contents of this and related International Standards are summarized in table 1 of ISO 11200:1995.

A method is given for determining a local environmental correction (the acceptable maximum value of which is specified) to be applied to the measured sound pressure levels to exclude the effects of reflections from reflecting surfaces other than the plane on which the machinery or equipment is placed. This correction is based upon the mean sound pressure level on a measurement surface, the sound pressure level measured at a specified position, and either an environmental indicator or the equivalent absorption area of the test room. The grade of accuracy of the measurements (engineering or survey) depends upon the value of the local environmental correction.

A work station is occupied by an operator. It may be located in open space in the room where the source operates, or in a cab fixed to the source, or in an enclosure remote from the source. One or more speci-

fied positions may be located in the vicinity of an attended or unattended machine. Such positions are sometimes referred to as bystander positions.

This International Standard specifies requirements on the test environment. Instructions are given for the installation and operation of the machine under test and for the choice of microphone positions for the work station and for other specified positions. The purpose of the measurements is to permit comparison of the performance of different units of a given family of machinery or equipment, under defined environmental conditions and standardized mounting and operating conditions. The data obtained may also be used for the declaration and verification of emission sound pressure levels as specified in ISO 4871.

NOTE 2 At any given position in relation to a particular machine, and for given mounting and operating conditions, the emission sound pressure levels determined by the method of this International Standard will in general be lower than the directly measured sound pressure levels for the same machine in the typical workroom where it is used. This is due to reverberation and the contributions of other machines. A method of calculating the sound pressure levels in the vicinity of a machine operating alone in a workroom is given in ISO 11690-3. Commonly observed differences are 1 dB to 5 dB, but in extreme cases the difference may be even greater.

1.2 Types of noise and noise sources

The method specified in this International Standard is applicable to all types of machinery, both moving and stationary, for indoor or outdoor use.