

SLOVENSKI STANDARD

SIST EN ISO 4871:1997

01-april-1997

**Akustika - Deklariranje in preverjanje podatkov o emisiji hrupa naprav in opreme
(ISO 4871:1996)**

Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)

Akustik - Angabe und Nachprüfung von Geräuschemissionswerten von Maschinen und Geräten (ISO 4871:1996)

Acoustique - Déclaration et vérification des valeurs d'émission sonore des machines et équipement (ISO 4871:1996)

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Ta slovenski standard je istoveten z: EN ISO 4871:1996

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
21.020	Značilnosti in načrtovanje strojev, aparatov, opreme	Characteristics and design of machines, apparatus, equipment

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en

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EUROPEAN STANDARD

EN ISO 4871

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1996

ICS 17.140.20

Descriptors: See ISO document

English version

**Acoustics - Declaration and verification of noise
emission values of machinery and equipment
(ISO 4871:1996)**

Acoustique - Déclaration et vérification des
valeurs d'émission sonore des machines et
équipements (ISO 4871:1996)

Akustik - Angabe und Nachprüfung von
Geräuschemissionswerten von Maschinen und
Geräten (ISO 4871:1996)

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This European Standard was approved by CEN on 1996-09-27. 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

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CORRECTED 1997-02-13

Foreword

The text of the International Standard ISO 4871:1996 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 June 1997, and conflicting national standards shall be withdrawn at the latest by June 1997.

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 EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

ISO 4871 deals with clause 1.7.4 (f) of annex A of EN 292-2, requiring that manufacturers must give information on the airborne noise emission by machinery. The correspondence between the physical quantities used in the above-mentioned clause and in ISO 4871 is given hereafter.

The equivalent continuous A-weighted sound pressure level at workstations stated in that clause corresponds to the "measured A-weighted emission sound pressure level at specified positions" in ISO 4871.

The peak C-weighted instantaneous pressure value at workstations stated in that clause corresponds to the "measured C-weighted peak emission sound pressure level at specified positions" in ISO 4871.

The sound power level emitted by the machinery stated in that clause corresponds to the "measured sound power level" in ISO 4871.

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

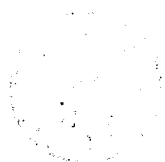
The text of the International Standard ISO 4871:1996 was approved by CEN as a European Standard without any modification.

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

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Annex ZB (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 using sound pressure - Precision methods for reverberation rooms	EN 23741	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 3743-1	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 7574-1	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 1: General consideration and definitions	EN 27574-1	1988
ISO 7574-2	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 2: Methods for stated values for individual machines	EN 27574-2	1988
ISO 7574-4	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 4: Methods for stated values for batches of machines	EN 27574-4	1988

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 level	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

INTERNATIONAL STANDARD

ISO
4871

Second edition
1996-12-15

Acoustics — Declaration and verification of noise emission values of machinery and equipment

iTeh STANDARD PREVIEW

*Acoustique — Déclaration et vérification des valeurs d'émission sonore
des machines et équipements*

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Reference number
ISO 4871:1996(E)

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 4871 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This second edition cancels and replaces the first edition (ISO 4871:1984), which has been technically revised.

Annexes A, B, C and D of this International Standard are for information only.

Introduction

Information on the acoustic noise emitted by machinery and equipment is needed by users, planners, manufacturers and authorities. This information is required for comparing the noise emitted by different products, for assessing noise emissions against noise limits, for planning workplace noise levels, as well as for checking noise reduction achievements, and may be used for estimating requirements for workplace noise immission.

In order for machinery noise emission data to be useful, uniform methods of measurement and declaration are necessary to achieve the following purposes.

a) **Measurement of noise emission**

The ISO 3740 series specifies methods for determining the sound power levels of noise sources from sound pressure level measurements; the ISO 9614 series specifies methods for determining the sound power levels from sound intensity level measurements; the ISO 11200 series describes methods for determining emission sound pressure levels at specified positions in the vicinity of machinery and equipment. Many other standards give test codes for the measurement of the noise emissions of individual types of machinery which are based on these methods.

b) **Determination of the noise emission value to be declared**

The ISO 7574 series gives methods for determining declared noise emission values which are based primarily on the sound power levels of noise sources. For a complete presentation of declared noise emission values, it is necessary to state the sound pressure levels at specified positions as well as the sound power level. Because of the possible confusion in terminology with respect to sound pressure levels used to define noise immission, the term "emission sound pressure level" is used in this International Standard.

c) **Presentation of declared noise emission values**

It is of prime importance to declare sound power levels. It is recognized, however, that information on emission sound pressure levels is sometimes required. It is recommended, therefore, that both kinds of quantity be declared, unless otherwise specified. Noise emission declarations can take the form of either a single-number or dual-number presentation; the choice is made in the noise test code appropriate to the particular family.

d) **Verification of declared noise emission values**

The ISO 7574 series gives procedures for the verification of a declared noise emission value. In that International Standard, the procedures are applied to verification of declared sound power levels. The procedures of this International Standard are applied to the verification of