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STANDARD

4871

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

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



Reference number
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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 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.

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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

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both sound power levels and emission sound pressure levels. The information in this International Standard on the verification of declared noise emission values may be used both by a buyer of equipment to compare the relative noise levels of various products, and by a manufacturer as part of a statistical quality control programme.

Requirements on the declaration of noise emission values are given in clause 4.

As the declaration of noise emission of machinery and equipment is the responsibility solely of the manufacturer or supplier, guidelines concerning the declaration are found in annex A.

Requirements on the presentation of declared noise emission values are given in clause 5 and annex B, and those on verification are given in clause 6 and annex C.