
International Standard



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Acoustics — Noise emitted by machinery and equipment — Guidelines for the preparation of test codes of engineering grade requiring noise measurements at the operator's or bystander's position

Acoustique — Bruit émis par les machines et matériels — Directives pour la rédaction des codes d'essais de la classe «expertise» comportant la mesure du bruit aux postes de conduite ou aux postes de l'assistant

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 6081 was prepared by Technical Committee ISO/TC 43, *Acoustics*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Contents

	Page
0 Introduction	1
1 Scope and field of application	2
2 References	2
3 Definitions	2
4 Test environment	3
5 Instrumentation	3
6 Microphone positions	4
7 Installation and operating conditions	5
8 Measurement	5
9 Corrections for background noise	7
10 Test report	7
 Annexes	
A Examples of suitable instrumentation systems	8
B Combination of sound pressure levels for unequal sampling intervals	9

Acoustics — Noise emitted by machinery and equipment — Guidelines for the preparation of test codes of engineering grade requiring noise measurements at the operator's or bystander's position

0 Introduction

0.1 General

This International Standard provides guidelines for preparing test codes that specify methods for measuring the sound pressure levels at the operator's position(s) in close proximity to a specific machine or piece of equipment or in the operator's cab.

The sound pressure levels determined according to the procedures of such test codes are useful for comparing the noise emissions of different machines at the operator's position(s) under similar environmental conditions. Hence, this International Standard relates to the emissions of noise sources. It is not the intent of this International Standard to describe procedures for measuring the occupational noise exposures of workers (noise immission).

The sound pressure levels at the operator's position(s) which are obtained according to the procedures of test codes based on this International Standard represent the noise emission of the machine for operating conditions specified for this particular type of machine. In practice, these sound pressure levels are the lowest obtainable values because they are determined by excluding effects of reflections other than those from the reflecting plane on which the machine is placed.

This International Standard provides guidelines for the installation and operating conditions for the machinery and equipment undergoing evaluation. Specific test codes may specify installation and operating conditions more precisely.

It is not the intent of this International Standard to specify requirements or assign responsibilities for meeting any specific sound pressure level criteria at the operator's position(s).

0.2 Relationship to other standards and test codes

This International Standard provides general guidelines for preparing test codes requiring noise measurements at the operator's position and describing the instrumentation, test site characteristics (indoors and outdoors), microphone locations and installation and operating conditions of specific types of machinery and equipment.

This International Standard is to be used in conjunction with ISO 3740. International Standards or test codes based upon ISO 3740 are to be used for specifying mounting, operating and loading conditions of the source during its acoustical evaluation.

A specific noise test code for measurements at the operator's position(s) for a specific type of machine should be based on this International Standard. Preferably only one specific noise emission test code should be established based on the series ISO 3741 to ISO 3746 and ISO 6081 for the following purposes :

- determination of the sound power level;
- determination of the sound pressure level at the operator's or bystander's position(s).

Account should be taken of the fact that ISO 3741 to ISO 3746 and ISO 6081 describe methods for different grades (precision, engineering, survey) and different measurement environments.

If no specific test code exists for a particular type of machine, this International Standard may be used to provide guidelines for the measurements.

The methods described in this International Standard are not applicable to determinations of the total noise emissions of products; for this purpose, the sound power level of the machine should be determined in accordance with the appropriate International Standard in the series ISO 3741 to ISO 3746, or from appropriate test codes based upon those International Standards.

0.3 Measurement uncertainty

Measurements carried out in conformity with this International Standard should result in standard deviations which are equal to or less than those given in table 1.

Table 1 — Uncertainty in determining the equivalent continuous sound pressure level, L_{eq}

Octave band centre frequencies	One-third octave band centre frequencies	Standard deviation of mean value
Hz	Hz	dB
125	100 to 160	3,0
250 to 500	200 to 630	2,0
1 000 to 4 000	800 to 5 000	1,5
8 000	6 300 to 10 000	2,5

These standard deviations reflect the cumulative effects of all causes of measurement uncertainty, including variations from laboratory to laboratory, but excluding variations in the sound