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Acoustics — Preferred reference values for acoustical and vibratory levels

Acoustique — Valeurs de référence recommandées pour les niveaux acoustiques et vibratoires

Reference number
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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 43, *Acoustics*.

This third edition cancels and replaces the second edition (ISO 1683:2008), which has been technically revised.

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Introduction

Various kinds of acoustical and vibratory levels expressed in decibels are commonly used in acoustics. In order to establish a uniform basis for the expression of those levels, a set of agreed reference values is needed.

The reference value determines whether the level for a particular quantity is positive or negative. For general measurements and many engineering specifications, it is desirable that levels of a given kind be consistently positive (or consistently negative) rather than both positive and negative.

In general, a reference value is expressed as the number one and a derived SI unit formed by the use of an appropriate SI prefix.

The values specified in this International Standard represent the values internationally adopted.

For airborne sound, a special reference value for sound pressure is stated according to widespread use and legal implications.

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Acoustics — Preferred reference values for acoustical and vibratory levels

1 Scope

This International Standard specifies reference values used in acoustics, in order to establish a uniform basis for the expression of acoustical and vibratory levels.

The reference values are mandatory for use in acoustics for sounds in air and other gases, sounds in water and other liquids, and for structure-borne sound, but can also be used in other applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2041, *Mechanical vibration, shock and condition monitoring — Vocabulary*

ISO/TR 25417, *Acoustics — Definitions of basic quantities and terms*

ISO 80000-8, *Quantities and units — Part 8: Acoustics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2041, ISO/TR 25417, ISO 80000-8, and the following apply.

3.1
reference value
quantity value used as a basis for comparison with values of quantities of the same kind

[SOURCE: ISO/IEC Guide 99:2007, 5.18]

Note 1 to entry: For the purposes of this International Standard, a reference value is expressed in terms of a number and an appropriate unit of measurement used to form a ratio of dimension one when defining a logarithmic quantity.

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