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Standards

Irish Standard  
I.S. EN ISO 1683:2015

# Acoustics - Preferred reference values for acoustical and vibratory levels (ISO 1683:2015)

## I.S. EN ISO 1683:2015

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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EUROPEAN STANDARD

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Supersedes EN ISO 1683:2008

English Version

## Acoustics - Preferred reference values for acoustical and vibratory levels (ISO 1683:2015)

Acoustique - Valeurs de référence recommandées pour les niveaux acoustiques et vibratoires (ISO 1683:2015)

Akustik - Bevorzugte Bezugswerte für Pegel in der Akustik und Schwingungstechnik (ISO 1683:2015)

This European Standard was approved by CEN on 30 April 2015.

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**EN ISO 1683:2015 (E)**

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## **Foreword**

This document (EN ISO 1683:2015) 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 DIN.

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of an identical text or by endorsement, at the latest by November 2015, and conflicting national standards shall be withdrawn at the latest by November 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 1683:2008.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### **Endorsement notice**

The text of ISO 1683:2015 has been approved by CEN as EN ISO 1683:2015 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
1683**

Third edition  
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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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## ISO 1683:2015(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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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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.

## **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.



# 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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