

INTERNATIONAL STANDARD

ISO
266

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Acoustics — Preferred frequencies

Acoustique — Fréquences normales

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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 266 was prepared by Technical Committee ISO/TC 43, *Acoustics*.

This second edition cancels and replaces the first edition (ISO 266:1975), which has been technically revised.

Annex A of this International Standard is for information only.

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Introduction

This International Standard specifies a series of preferred frequencies in order to provide a common basis for comparing the results of acoustical measurements.

The frequency series is referred to the reference frequency of 1 000 Hz, which is also the reference frequency for the definition of the phon (see ISO 31-7).

The specification of the preferred frequency series reduces to a minimum the number of frequencies at which acoustical data need to be tabulated. Also measurement equipment may be specifically constructed for these frequencies.

The specified series of preferred frequencies uses powers of 10 and is therefore especially convenient for extensions into the infrasonic and ultrasonic (frequency) ranges. Another series of frequencies that is in use is based on the definition of the octave as the frequency ratio 1:2. The frequencies of this series are calculated as powers of two (IEC 1260 base-two series).

Strictly, these two series are incompatible. However the base-two series may be accepted as a sufficient approximation to the base-ten series because of the fact that $2^{1/3} = 1,259\ 9\dots$ is very nearly the same as $10^{1/10} = 1,258\ 9\dots$

Practical considerations make some additional rounding desirable: Thus 500 Hz is listed instead of 501,187 233... Hz, which is the exact frequency from the base-ten series. The calculated value of the exact frequency expressed to five significant figures is given in the second column of table 1. In this way, the maximum individual deviation, in the frequency range 20 Hz to 20 000 Hz, between the rounded preferred frequencies and the calculated frequencies for the base-ten and base-two series is 0,94 % and 1,59 %, respectively.