

INTERNATIONAL STANDARD

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Acoustics — Measurement of sound pressure levels in the interior of aircraft during flight

*Acoustique — Mesurage des niveaux de pression acoustique à l'intérieur
des aéronefs en vol*



Reference number
ISO 5129:2001(E)

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 5129 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This third edition cancels and replaces the second edition (ISO 5129:1987), which has been technically revised.

Annex A of this International Standard is for information only.

Acoustics — Measurement of sound pressure levels in the interior of aircraft during flight

1 Scope

1.1 This International Standard specifies requirements for instruments and test procedures for the measurement and reporting of sound pressure levels at crew and passenger locations in the interior of aircraft under steady flight conditions. The sound pressure levels may be used to determine various quantities for describing the acoustical environment in the interior of the aircraft. The procedures are intended to ensure uniformity in test results and to provide the basis for determination of measurement uncertainties.

1.2 This International Standard provides electroacoustical performance specifications for a complete measurement system from a microphone to the readout device. Various individual components of a measurement system may be selected so long as the total measurement system conforms to the specifications of this International Standard.

1.3 The preferred measurement procedure involves the recording of sound pressure signals with subsequent analysis into one-third-octave band sound pressure levels. Direct measurements may be made of one-third-octave-band sound pressure levels.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 31-7, *Quantities and units — Part 7: Acoustics*¹⁾

ISO 266, *Acoustics — Preferred frequencies*

IEC 60942, *Electroacoustics — Sound calibrators*

IEC 61183, *Random-incidence and diffuse-field calibration of sound level meters*

IEC 61260, *Electroacoustics — Octave-band and fractional-octave-band filters*

IEC 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications*²⁾

3 Terms and definitions

For the purposes of this International Standard, in addition to the terms and definitions given in ISO 31-7, the following definitions apply. Definitions of other relevant quantities are given in IEC 61672-1.

1) To be revised as ISO/IEC 80000-8.

2) To be published.