

INTERNATIONAL STANDARD



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Acoustics — Measurement of noise on board vessels

Acoustique — Mesurage du bruit à bord des bateaux

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 2923 was drawn up by Technical Committee ISO/TC 43, *Acoustics*, and circulated to the Member Bodies in January 1973.

It has been approved by the Member Bodies of the following countries :

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Israel	Switzerland
Bulgaria	Italy	Thailand
Canada	Mexico	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
Egypt, Arab Rep. of	Norway	U.S.S.R.
France	Portugal	
Germany	Romania	

The Member Body of the following country expressed disapproval of the document on technical grounds :

Sweden

Acoustics — Measurement of noise on board vessels

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the conditions for obtaining reproducible and comparable measurements of the noise level and the noise spectrum on board vessels.

The results may be used, for example,

- to compare various vessels;
- to characterize the acoustic comfort on board these vessels;
- to orient a program of more elaborate measurements for the purposes of studying noise reduction procedures.

NOTES

1 The test procedures specified in this International Standard are engineering methods as defined in ISO 2204, *Acoustics — Guide to the measurement of airborne acoustical noise and evaluation of its effects on man*. Note, however, that frequency band analysis is only required for type tests.

2 Measurements may be made on sources emitting noise of an impulsive character with an impulsive sound level meter (see clause 5).

2 REFERENCES

IEC Publication 179, *Precision sound level meters*.

IEC Publication 225, *Octave, half-octave and third-octave band filters intended for the analysis of sound and vibrations*.

3 NATURE OF TESTS

3.1 type tests : Measurements performed to prove that the vessel delivered by the manufacturer corresponds to noise specifications. The conditions prescribed for each test shall be complied with as closely as possible, but if unavoidable variations have to be made, these must be stated in the test report.

3.2 monitoring tests : Measurements performed in order to check that the noise of the vessel is still within prescribed limits and that no noticeable changes have occurred since the acceptance on initial delivery or after modification, as applicable.

For monitoring tests, slight deviations from the test conditions specified for type tests may be tolerated, for example the number of measurement positions and the number of engine operating conditions may be reduced.

Any variation shall be described in the test report.

4 MEASURED QUANTITIES

4.1 All readings of the sound level meter are to be taken with the dynamic characteristic "slow".

4.2 The values to be measured at all microphone positions in type and monitoring tests are A-weighted sound pressure levels L_A expressed in decibels (dB).

NOTE — If the weighting curve is not otherwise stated, the measured values shall be expressed in dB(A).

4.3 In type tests for spectral analysis at some selected microphone positions, the values to be measured are octave band or 1/3 octave band sound pressure levels in decibels (dB).

NOTE — The spectral analysis shall be extended appropriately below 50 Hz, if strong low frequency components are to be expected.

5 MEASUREMENT EQUIPMENT

5.1 The sound level meter shall comply with IEC Publication 179.

5.2 If additional measuring equipment, including, for example, a tape recorder and/or level recorder is used, its overall electro-acoustic performance shall conform to the relevant clauses of IEC Publication 179.

5.3 For the measurement of noise spectra, the filters shall correspond to IEC Publication 225.

5.4 The overall acoustic performance of the measurement equipment shall be checked according to the instructions of the manufacturer, preferably with a standard sound source (for example pistonphone), at the beginning and at the end of each series of measurements.