

Acoustics — Test code for the measurement of airborne noise emitted by rotating electrical machinery

The European Standard EN ISO 1680:1999 has the status of a
British Standard

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National foreword

This British Standard is the official English language version of EN ISO 1680:1999. It is identical with ISO 1680:1999. It supersedes BS 7458 *Noise from rotating electrical machinery — Part 1: Engineering method for free-field conditions over a reflecting plane*:1991 and *Part 2: Survey method*:1991 which are withdrawn.

The UK participation in its preparation was entrusted by Technical Committee EH/1, Acoustics, to Subcommittee EH/1/4, Machinery noise, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii to v, a blank page, pages 1 to 15, the annex ZA page, an inside back cover and a back cover.

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English version

**Acoustics - Test code for the measurement of airborne noise
emitted by rotating electrical machinery (ISO 1680:1999)**

Acoustique - Code d'essai pour le mesurage du bruit aérien
émis par les machines électriques tournantes (ISO
1680:1999)

Akustik - Verfahren zur Messung der Luftschallemission
von drehenden elektrischen Maschinen (ISO 1680:1999)

This European Standard was approved by CEN on 22 August 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

The text of the International Standard ISO 1680:1999 has been prepared by Technical Committee ISO/TC 43 "Acoustique" in collaboration with Technical Committee CEN/TC 211 "Acoustique", the secretariat of which is held by DS.

This European Standard supersedes EN 21680-1:1991 and EN 21680-2:1991.

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 April 2000, and conflicting national standards shall be withdrawn at the latest by April 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 1680:1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

INTERNATIONAL STANDARD

EN ISO 1680:1999

**ISO
1680**

First edition
1999-10-01

Acoustics — Test code for the measurement of airborne noise emitted by rotating electrical machines

*Acoustique — Code d'essai pour le mesurage du bruit aérien émis par les
machines électriques tournantes*



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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.

International Standard ISO 1680 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This first edition of ISO 1680 cancels and replaces ISO 1680-1:1986 and ISO 1680-2:1986, which have been combined and technically revised.

Annexes A and B of this International Standard are for information only.

Introduction

This International Standard is a noise test code giving methods for determining the airborne sound radiation of rotating electrical machines operating under steady-state conditions.

To characterize the airborne sound radiation, procedures are given to determine sound power levels and additionally emission sound pressure levels, if required. Furthermore, requirements are given for the declaration and verification of noise emission values.

Basic standards giving methods for determining sound power levels are as follows:

a) using sound pressure:

$\frac{3}{4}$ grade 1 (precision): ISO 3741 and ISO 3745;

$\frac{3}{4}$ grade 2 (engineering): ISO 3743-1, ISO 3743-2, ISO 3744, ISO 3747;

$\frac{3}{4}$ grade 3 (survey): ISO 3746;

b) using sound intensity:

$\frac{3}{4}$ all grades: ISO 9614-1;

$\frac{3}{4}$ grades 2 and 3: ISO 9614-2.

The emission sound pressure level is determined on the basis of ISO 11203. Declaration and verification of noise emission values follow ISO 4871.

This International Standard has been drafted in accordance with ISO 12001.