



SLOVENSKI STANDARD SIST EN ISO 1680:2001

01-september-2001

BUXca Yý U
SIST EN 21680-1:1997
SIST EN 21680-2:1997

5_i gh_U! 'DfYg_i gb] 'dcgltcdY_ 'nUa Yf]hYj \ fi dUj 'nfU_i ž_] [UgYj Uč 'YY_f] b] j fh] b] glfc] f] GC %, \$.% - - Ł

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 1680:2001
https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001](https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001)

Ta slovenski standard je istoveten z: EN ISO 1680:1999

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
29.160.01	Rotacijski stroji na splošno	Rotating machinery in general

SIST EN ISO 1680:2001 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 1680:2001

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 1680

October 1999

ICS 17.140.00; 17.160.10

Supersedes EN 21680-1:1991 and 21680-2:1991

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.

[SIST EN ISO 1680:2001](https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001)

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Page 2
EN ISO 1680:1999

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).

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 1680:2001

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>

Annex ZA (normative)

Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 3741	1999	Acoustics - Determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms	EN ISO 3741	1999
ISO 3743-1	1994	Acoustics - Determination of sound power levels of noise sources - Engineering methods for small, movable sources in reverberant fields - Part 1: Comparison method for hard-walled test rooms	EN ISO 3743-1	1995
ISO 3743-2	1994	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering methods for small, movable sources in reverberant fields - Part 2: Methods for special reverberation test rooms	EN ISO 3743-2	1996
ISO 3744	1994	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane	EN ISO 3744	1995
ISO 3746	1995	Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane	EN ISO 3746	1995
ISO 4871	1996	Acoustics - Declaration and verification of noise emission values of machinery and equipment	EN ISO 4871	1996
ISO 7574-1	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 1: General considerations and definitions	EN 27574-1	1988
ISO 7574-4	1985	Acoustics - Statistical methods for determining and verifying stated noise emission values of machinery and equipment - Part 4: Methods for stated values for batches of machines	EN 27574-4	1988
ISO 7779	1988	Acoustics - Measurement of airborne noise emitted by computer and business equipment	EN 27779	1991
ISO 9614-1	1993	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points	EN ISO 9614-1	1995
ISO 9614-2	1996	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 2: Measurement by scanning	EN ISO 9614-2	1996
ISO 11203	1995	Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level	EN ISO 11203	1995

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 1680:2001

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>

INTERNATIONAL STANDARD

**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*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 1680:2001](https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001)

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>



Reference number
ISO 1680:1999(E)

ISO 1680:1999(E)

Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Description of machinery family	4
5 Sound power determination	4
5.1 General	4
5.2 Guidelines for the selection of the most appropriate basic standard	5
5.3 Additional requirements	6
6 Installation and mounting conditions	7
6.1 Mounting of the machine	7
6.2 Auxiliary equipment and loaded machines	7
7 Operating conditions	7
7.1 General	7
7.2 Load	8
7.3 Variable speed devices	8
8 Measurement uncertainty	8
9 Determination of the emission sound pressure level	9
9.1 General	9
9.2 Selection of the relevant work station	9
9.3 Selection of basic standard to be used	9
9.4 Measurement uncertainty	9
10 Indication of noise emission quantities determined according to this International Standard	9
11 Information to be recorded	10
12 Information to be reported	10

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 1680:2001](https://standards.iteh.ai/catalog/standards/sist/0530c2d3-7510-477e-9418-7295e25d330f/sist-en-iso-1680-2001)

[https://standards.iteh.ai/catalog/standards/sist/0530c2d3-7510-477e-9418-](https://standards.iteh.ai/catalog/standards/sist/0530c2d3-7510-477e-9418-7295e25d330f/sist-en-iso-1680-2001)

[7295e25d330f/sist-en-iso-1680-2001](https://standards.iteh.ai/catalog/standards/sist/0530c2d3-7510-477e-9418-7295e25d330f/sist-en-iso-1680-2001)

© ISO 1999

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet iso@iso.ch

Printed in Switzerland

13 Declaration and verification of noise emission values (if required)	11
Annex A (informative) Overview of International Standards for the determination of sound power levels of machines and equipment	12
Annex B (informative) Example of a dual-number declaration for rotating electrical machines	14
Bibliography	15

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 1680:2001](https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001)

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>

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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 1680:2001](https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001)

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-7295e25d330f/sist-en-iso-1680-2001>

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:
 - grade 1 (precision): ISO 3741 and ISO 3745;
 - grade 2 (engineering): ISO 3743-1, ISO 3743-2, ISO 3744, ISO 3747;
 - grade 3 (survey): ISO 3746;
- b) using sound intensity:
 - all grades: ISO 9614-1;
 - grades 2 and 3: ISO 9614-2.

ITeH STANDARD PREVIEW
(standards.iteh.ai)

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

[SIST EN ISO 1680:2001](https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-f8d125f63662/iso-1680-2001)

<https://standards.iteh.ai/catalog/standards/sist/0330c2d3-7310-477e-94f8-f8d125f63662/iso-1680-2001>

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