

This is a preview of "ISO 9295:2015". [Click here to purchase the full version from the ANSI store.](#)

Second edition
2015-05-15

Acoustics — Determination of high-frequency sound power levels emitted by machinery and equipment

Acoustique — Détermination des niveaux de puissance acoustique à haute fréquence émis par les machines et équipements



Reference number
ISO 9295:2015(E)

© ISO 2015

This is a preview of "ISO 9295:2015". Click here to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

This is a preview of "ISO 9295:2015". Click here to purchase the full version from the ANSI store.

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Conformity requirements	1
5 Requirements for measurements in a reverberation test room	1
5.1 General.....	1
5.2 Meteorological conditions.....	2
5.3 Instrumentation.....	2
5.4 Installation and orientation of microphone.....	2
5.5 Installation and orientation of equipment.....	3
5.6 Calibration of measurement system.....	3
5.7 Measurement of sound pressure level.....	3
6 Method using measured reverberation time	4
6.1 General.....	4
6.2 Measurement of reverberation time.....	5
6.3 Calculation of room absorption.....	5
6.4 Installation of microphone and equipment.....	5
6.5 Measurement of sound pressure level.....	5
6.6 Calculation of sound power level.....	6
7 Method using calculated air absorption	6
7.1 General.....	6
7.2 Calculation of room constant.....	6
7.3 Installation of microphone and equipment.....	6
7.4 Measurement of sound pressure level.....	6
7.5 Calculation of sound power level.....	7
8 Method using a reference sound source	8
8.1 Reference sound source.....	8
8.2 Installation of microphone and equipment.....	8
8.3 Installation of reference sound source.....	9
8.4 Measurement of sound pressure level.....	9
8.5 Calculation of sound power level.....	9
8.5.1 Equipment emitting broad-band noise.....	9
8.5.2 Equipment emitting discrete tone(s).....	10
9 Method using a free field over a reflecting plane	10
9.1 General.....	10
9.2 Meteorological conditions.....	10
9.3 Instrumentation.....	11
9.4 Installation and orientation of microphone.....	11
9.5 Installation of equipment.....	11
9.6 Calibration of measurement system.....	11
9.7 Measurement of sound pressure level.....	12
9.8 Calculation of surface sound pressure level and sound power level.....	12
10 Calculation of sound power level under reference meteorological conditions	13
10.1 Reverberation rooms.....	13
10.2 Hemi-anechoic rooms.....	13
11 Measurement uncertainty	13
12 Information to be recorded	13

This is a preview of "ISO 9295:2015". [Click here to purchase the full version from the ANSI store.](#)

12.1	General.....	13
12.2	Equipment under test.....	13
12.3	Acoustic environment.....	14
12.4	Instrumentation.....	14
12.5	Acoustical data.....	14
13	Information to be reported.....	14
Annex A	(normative) Calculation of air absorption coefficient.....	16
Bibliography	18

This is a preview of "ISO 9295:2015". Click here to purchase the full version from the ANSI store.

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This second edition cancels and replaces the first edition (ISO 9295:1988), which has been technically revised.

Introduction

Some machinery and equipment emit high-frequency noise which might be broad-band noise (e.g. paper noise of high-speed printing) or narrow-band noise and discrete tones (e.g. noise of switching power supplies and video display units or medical devices).

This International Standard specifies methods for the determination of the sound power levels in the frequency range covered by the octave band centred at 16 kHz. The measured levels are not frequency-weighted. The principal objective of this International Standard is to prescribe methods for determining the sound power levels and frequencies of tones which are contained within the 16 kHz octave band.