

This is a preview of "ISO 26101:2017". [Click here to purchase the full version from the ANSI store.](#)

Second edition  
2017-04

---

---

## Acoustics — Test methods for the qualification of free-field environments

*Acoustique — Méthodes d'essai pour la qualification des  
environnements en champ libre*



Reference number  
ISO 26101:2017(E)

© ISO 2017

This is a preview of "ISO 26101:2017". [Click here to purchase the full version from the ANSI store.](#)



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, 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 26101:2017". [Click here to purchase the full version from the ANSI store.](#)

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Allowable deviations from inverse square law</b> .....	<b>2</b>
<b>5 Measurement of free sound field performance</b> .....	<b>3</b>
5.1 Divergence loss method.....	3
5.1.1 Principle.....	3
5.1.2 Instrumentation and measuring equipment.....	3
5.1.3 Location of test sound sources and microphone traverses.....	4
5.1.4 Test procedure.....	5
5.1.5 Expression of results.....	6
5.1.6 Measurement uncertainty.....	7
5.2 Information to be recorded.....	7
5.3 Information to be reported.....	8
<b>Annex A (normative) Qualification criteria and measurement requirements</b> .....	<b>9</b>
<b>Annex B (normative) General procedure for evaluation of sound source directionality</b> .....	<b>12</b>
<b>Annex C (informative) Measurement uncertainty</b> .....	<b>15</b>
<b>Annex D (informative) Guidelines for referring to this test method</b> .....	<b>18</b>
<b>Bibliography</b> .....	<b>20</b>

## 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](http://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](http://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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 43, *Acoustics*.

This second edition cancels and replaces the first edition (ISO 26101:2012), which has been technically revised. The main changes are as follows:

- the term “acoustic centre” was replaced by “mathematical origin of the traverse” in several places in the document to provide clarification of terminology;
- the minimum traverse path length was reduced from 1/2 wavelength to 1/4 wavelength;
- [Figure B.1](#) has been added.

This is a preview of "ISO 26101:2017". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

This document describes the divergence loss method of measurement of performance of an environment designed to provide a free sound field or free sound field over a reflecting plane. An acoustical environment is a free sound field if it has bounding surfaces that absorb all sound energies incident upon them. This is normally achieved using specialized test environments, such as anechoic or hemi-anechoic chambers. In practice, these provide a controlled free sound field for acoustical measurements in a confined space within the facility.

The purpose of this document is to promote uniformity in the method and conditions of measurement when qualifying free sound field environments.

It is expected that the qualification procedures outlined in this document will be referred to by other International Standards and industry test codes. In such cases, these documents making reference to this document may specify qualification criteria appropriate for the test method and may require specific traverse paths.