საქართველოს სტანდარტი

აკუსტიკა. გარემოს ხმაურის აღწერა, გაზომვა და შეფასება - ნაწილი 2: ხმის წნევის დონეების განსაზღვრა

საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტო თბილისი

სსტ ისო 1996-2:2017/2020

საინფორმაციო მონაცემები

- 1 **შემუშავებულია** საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ
- 2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2020 წლის 3 აპრილის № 42 განკარგულებით
- **3 მიღებულია გარეკანის თარგმნის მეთოდით** სტანდარტიზაციის საერთაშორისო ორგანიზაციის სტანდარტი ისო 1996-2:2017 ,, აკუსტიკა. გარემოს ხმაურის აღწერა, გაზომვა და შეფასება ნაწილი 2: ხმის წნევის დონეების განსაზღვრა"

4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2020 წლის 3 აპრილი №268-1.3-017067

დაუშვებელია წინამდებარე სტანდარტის სრული ან ნაწილობრივი კვლავწარმოება, ტირაჟირება და გავრცელება სსიპ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე

INTERNATIONAL STANDARD

ISO 1996-2

Third edition 2017-07

Acoustics — Description, measurement and assessment of environmental noise —

Part 2:

Determination of sound pressure levels

Acoustique — Description, évaluation et mesurage du bruit de l'environnement —

Partie 2: Détermination des niveaux de pression acoustique





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

Contents			
Fore	eword		v
Intr	oductio	on	vi
1	Scop	oe	1
2	Nori	mative references	1
3	Tern	ns and definitions	1
4		surement uncertainty	
5			
	5.1	rumentation for acoustical measurements General	
	5.2	Calibration	
	5.3	Verification	
	5.4	Long-term monitoring	6
6	Prin	ciples	
	6.1	General	
	6.2	Independent measurements	7
7	_	ration of the source	
	7.1	General Page 4 traffic	
	7.2	Road traffic 7.2.1 L_{eq} measurement	
		7.2.2 L_{max} measurement	
	7.3	Rail traffic	
		7.3.1 L_{eq} measurement	
	7.4	7.3.2 L _{max} measurement	
	7.4	Air traffic	
		7.4.1 L_{eq} measurement	
	7.5	Industrial plants	
		7.5.1 L_{eq} measurement	
		7.5.2 L _{max} measurement	11
8	Mete	eorological conditions	
	8.1	General	
	8.2	Favourable propagation	
	8.3	Effects of precipitation on measurements	
9		surement procedures	
	9.1	Selection of measurement time interval 9.1.1 Long-term measurements	
		9.1.2 Short-term measurements	
	9.2	Microphone location	
		9.2.1 Outdoors	
	0.0	9.2.2 Indoors	
	9.3	Measurements 9.3.1 Long-term unattended measurements	
		9.3.2 Short-term attended measurements	
		9.3.3 Residual sound	
		9.3.4 Frequency range of measurements	
		9.3.5 Measurements of meteorological parameters	17
10	Eval	uation of the measurement results	18
	10.1		
	10.2	2,1. 64,1	
		10.2.1 $L_{E,T}$ and $L_{\text{eq},T}$	
		10.4.4 LN,T	18

	10.3	reatment of incomplete or corrupted data		
		10.3.1 General 10.3.2 Wind sound		
	10.4	Level correction for residual sound		
	10.5	Determination of standard uncertainty		
	10.6	Determination of L_{den}	20	
		10.6.1 Determination from long-term L_{eq} measurements		
		10.6.2 Determination from long-term L_E measurements of individual events		
	10.7	10.6.3 Determination from short-term measurements Maximum level, L_{max}		
11	Extra 11.1	polation to other locations General		
	11.1	Extrapolation by means of calculations		
	11.3	Extrapolation by means of measured attenuation functions		
12	Calculation			
	12.1	General		
	12.2	Calculation methods		
		12.2.1 General		
		12.2.2 Specific procedures		
13		nation to be recorded and reported		
Annex	x A (info	ormative) Determination of radius of curvature	26	
Annex	x B (info	ormative) Microphone locations relative to reflecting surfaces	29	
Annex	c C (info	ormative) Selection of measurement/monitoring site	34	
Annex	x D (inf	ormative) Correction to reference condition	36	
Annex	x E (info	ormative) Elimination of unwanted sound	41	
Annex	x F (info	rmative) Measurement uncertainty	42	
Annex	x G (info	ormative) Examples of uncertainty calculations	44	
Annex	x H (inf	ormative) Maximum sound pressure levels	49	
Annex	x I (info	rmative) Measurement of residual sound	52	
Anne		rmative) Objective method for assessing the audibility of tones in noise — eering method	54	
Annex		ormative) Objective method for assessing the audibility of tones in noise — y method	56	
Anne	x L (info	ormative) National and European source specific calculation models	57	
Biblio	graphy	7	60	

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

This document was prepared by Technical Committee ISO/TC 43, Acoustics, Subcommittee SC 1, Noise.

This third edition cancels and replaces the second edition (ISO 1996-2:2007), which has been technically revised.

A list of all the parts in the ISO 1996 series can be found on the ISO website.

Introduction

Measurements of environmental noise are complicated because there is a great number of variables to consider when planning and performing the measurements. As each measurement occasion is subject to current source and meteorological conditions which cannot be controlled by the operator, it is often not possible to control the resulting uncertainty of the measurements. Instead, the uncertainty is determined after the measurements based on an analysis of the acoustic measurements and collected data on source operating conditions and on meteorological parameters important for the sound propagation.

Because this document has the ambition both to comply with new and stricter requirements on measurement uncertainty calculations and to cover all kinds of sources and meteorological conditions, it has become more complicated than what a standard covering a single, specific source and application could have been. The best use of the standard is to use it as a basis for developing more dedicated standards serving specific sources and aims.