### საქართველოს სტანდარტი

ერგონომიკა - საფრთხის სიგნალები საზოგადოებისა და სამუშაო ადგილებისათვის - აუდიტორული საფრთხის სიგნალები (ისო 7731:2003)

საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტო თბილისი

### სსტ ენ ისო 7731:2008/2019

### საინფორმაციო მონაცემები

- 1 შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ
- 2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2019 წლის 6 დეკემბრის № 98 განკარგულებით
- **3 მიღებულია გარეკანის თარგმნის მეთოდით** სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ ისო 7731:2008 "ერგონომიკა საფრთხის სიგნალები საზოგადოებისა და სამუშაო ადგილებისათვის აუდიტორული საფრთხის სიგნალები (ისო 7731:2003)"

### 4 პირველად

**5 რეგისტრირებულია** საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2019 წლის 6 დეკემბერი №268-1.3-016206

### EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

**EN ISO 7731** 

September 2008

ICS 13.180; 13.320

Supersedes EN ISO 7731:2005

#### **English Version**

# Ergonomics - Danger signals for public and work areas - Auditory danger signals (ISO 7731:2003)

Ergonomie - Signaux de danger pour lieux publics et lieux de travail - Signaux de danger auditifs (ISO 7731:2003)

This European Standard was approved by CEN on 25 August 2008.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents	Page
Foreword	3
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC	4
Annex ZB (informative) Relationship between this European Standard and the Essential  Requirements of EU Directive 2006/42/EC	5

#### **Foreword**

The text of ISO 7731:2003 has been prepared by Technical Committee ISO/TC 159 "Ergonomics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 7731:2008 by Technical Committee CEN/TC 122 "Ergonomics" the secretariat of which is held by DIN.

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 March 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 7731:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

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

#### **Endorsement notice**

The text of ISO 7731:2003 has been approved by CEN as a EN ISO 7731:2008 without any modification.

### Annex ZA (informative)

# Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 98/37/EC on machinery, amended by 98/79/EC.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 98/37/EC, amended by 98/79/EC

Clause(s)/sub-clause(s) of this EN	Essential Requirements (ERs) of Directive 98/37/EC, amended by 98/79/EC	Qualifying remarks/Notes
All clauses	Annex I: 1.2.2, 1.7.0, 3.6.1	-

**WARNING** — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

### Annex ZB (informative)

## Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard given in Table ZB.1 confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

Table ZB.1 — Correspondence between this European Standard and Directive 2006/42/EC

Clause(s)/sub-clause(s) of this EN	Essential Requirements (ERs) of Directive 2006/42/EC	Qualifying remarks/Notes
All clauses	Annex I: 1.1.6, 1.2.2, 1.7.1, 1.7.1.2, 1.7.2, 3.6.1	-

**WARNING** — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

# INTERNATIONAL STANDARD

ISO 7731

Second edition 2003-11-01

# Ergonomics — Danger signals for public and work areas — Auditory danger signals

Ergonomie — Signaux de danger pour lieux publics et lieux de travail — Signaux de danger auditifs



#### PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

#### © ISO 2003

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 either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

### **Contents** Page

Forewo	ord	iν
Introdu	ıction	. v
1	Scope	. 1
2	Normative references	. 1
3	Terms, definitions and symbols	. 1
4 4.1 4.2 4.2.1 4.2.2 4.2.3 4.2.4 4.2.5 4.3	Safety requirements	. 3 . 3 . 3 . 3
5 5.1 5.2 5.2.1 5.2.2 5.2.3 5.2.4 5.3	Test methods  Measurement equipment  Objective acoustic measurements  General  Weighted measurements  Measurements made in the frequency domain  Measurement of the auditory signal with ambient noise present  Subjective test method	. 4
6 6.1 6.2 6.3 6.4 6.4.1 6.4.2 6.4.3 6.5	Design criteria for auditory danger signals  General	. 5 . 6 . 6
Annex	A (normative) Definitions of symbols	. 8
Annex	B (normative) Calculation of effective masked threshold	. 9
Annex	C (normative) Listening test	10
Annex	D (informative) Examples of danger signals	11
Diblina	man hav	4 7

### **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 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 7731 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 5, *Ergonomics* of the physical environment.

This second edition cancels and replaces the first edition (ISO 7731:1986), which has been technically revised.

### Introduction

This International Standard specifies criteria applicable to the recognition of auditory danger signals, especially in cases where there is a high level of ambient noise. It covers auditory danger signals, designated in the text of this standard by the use of the phrase "danger signals", which apply to emergency signals and warning signals (see Table 1).

Auditory danger signals can also be found in the following International Standards:

- ISO 8201 dealing with emergency evacuation signals;
- ISO 11429 dealing with auditory and visual danger signals.

Various types of danger signals and their responses are described in Table 1.

It should be noted that ISO 11429 covers this subject in greater detail.

Table 1 — Various types of danger signals

Type of danger signal	Response
Auditory emergency evacuation signal	Leave the danger zone immediately
Auditory emergency signal	Take urgent action for rescue or protection
Auditory warning signal	Take preventative or preparatory action

Correctly designed signals can reliably call attention to a hazard or a dangerous situation, even when hearing protection is worn, without causing fright.