ICS 17.140.20, 91.120.20, 91.140.01

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Acoustics - Measurement of sound pressure level from service equipment or activities in buildings - Engineering method (ISO 16032:2024)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/24

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ICS 17.140.20; 91.120.20; 91.140.01 Supersedes EN ISO 16032:2004

English Version

Acoustics - Measurement of sound pressure level from service equipment or activities in buildings - Engineering method (ISO 16032:2024)

Acoustique - Mesurage du niveau de pression acoustique des équipements techniques ou activités dans les bâtiments - Méthode d'expertise (ISO 16032:2024)

Akustik - Messung des Schalldruckpegels von haustechnischen Anlagen oder Aktivitäten in Gebäuden - Standardverfahren (ISO 16032:2024)

This European Standard was approved by CEN on 1 March 2024.

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EN ISO 16032:2024 (E)

Contents

Page

European foreword

This document (EN ISO 16032:2024) has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with Technical Committee CEN/TC 126 “Acoustic properties of building elements and of buildings” the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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

This document supersedes EN ISO 16032:2004.

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Endorsement notice

The text of ISO 16032:2024 has been approved by CEN as EN ISO 16032:2024 without any modification.

International Standard

ISO 16032

Acoustics — Measurement of sound pressure level from service equipment or activities in buildings — Engineering method

Acoustique — Mesurage du niveau de pression acoustique des équipements techniques ou activités dans les bâtiments — Méthode d'expertise

Second edition
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Contents

Page

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 document 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).

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For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 2, *Building acoustics,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 126, *Acoustic properties of building elements and of buildings,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16032:2004), which has been technically revised.

The main changes are as follows:

— terms and definitions have been revised;

— procedure to detect and average spatial and temporal variations of the sound has been revised;

— measurements can be performed to verify sound levels either from a specific service equipment or an activity in the building, with operating conditions described in Annex B or by national guidelines if such exist for a specific type of service equipment, e.g. lifts;

— title is updated to reflect that also sound from activities in the building can be measured according to this document, e.g. music sound from a restaurant or sports premises in the same building;

— measurements are performed in one–third–octave–bands;

— octave–band levels, without corrections for reverberation times or background noise may be measured or estimated from the one–third–octave–band levels and reported optionally, but they are not used to calculate the *A*-weighted and *C*-weighted sound pressure levels;

— standardization with respect to reverberation times applies to the 50 Hz to 5 000 Hz one–third–octave–bands;

— frequency range used to calculate the *A*-weighted and *C*-weighted sound pressure levels can include one–third–octave bands from 25 Hz to 10 000 Hz but shall always include the bands 50 Hz to 5 000 Hz;

— Annex C added providing an example form for the expression of results.

ISO 16032:2024(en)

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Many countries have building regulations intended to protect people from noise in their homes or workplaces. For the purpose of verification of compliance with such regulations, there is a need for a standardized method for the measurement of sound pressure levels from service equipment or activities in this building. This document specifies a procedure for such measurements, under specific operating conditions and operating cycles.

International Standard **ISO 16032:2024(en)**

Acoustics — Measurement of sound pressure level from service equipment or activities in buildings — Engineering method

1 Scope

This document specifies an engineering method for the measurement of sound pressure levels in rooms from service equipment installed in the building.

This document covers specifically measurements of sound from sanitary installations, mechanical ventilation, heating and cooling service equipment, lifts, rubbish chutes, heating devices, blowers, pumps and other auxiliary service equipment, and motor driven car park doors. It can also be applied to measurements of sounds from other types of equipment or activities within the building, e.g. noise from sport facilities or restaurants.

The measurement of noise from external sound sources generating air-borne or ground-borne noise in the building are not included in this document.

The methods are suitable for rooms with volumes of approximately 300 m^3 or less for instance, in dwellings, hotels, schools, offices and hospitals.

The methods are not intended for measurements in large auditoria or concert halls.

2 Normative references

The following documents are referred to in the text in such a way that some or all their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3382-2, *Acoustics — Measurement of room acoustic parameters — Part 2: Reverberation time in ordinary rooms*

IEC 60942, *Electroacoustics — Sound calibrators*

IEC 61260-1, *Electroacoustics — Octave-band and fractional-octave-band filters*

IEC 61672-1, *Electroacoustics — Sound level meters - Part 1: Specifications*