SVENSK STANDARD
SS-EN ISO 16283-1:2014/A1:2017

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Byggakustik – Fältmätning av ljudisolering i byggnader och hos byggnadselement –
Del 1: Luftljudsisolering –
Tillägg 1 (ISO 16283-1:2014/Amd 1:2017)

Acoustics – Field measurement of sound insulation in buildings and of building elements –
Part 1: Airborne sound insulation –
Amendment 1 (ISO 16283-1:2014/Amd 1:2017)

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Europastandarden EN ISO 16283-1:2014/A1:2017 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 16283-1:2014/A1:2017.

The European Standard EN ISO 16283-1:2014/A1:2017 has the status of a Swedish Standard. This document contains the official version of EN ISO 16283-1:2014/A1:2017.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Byggakustik, SIS/TK 197.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 16283-1:2014/A1

December 2017

ICS 91.120.20

English Version

Acoustics - Field measurement of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation - Amendment 1 (ISO 16283-1:2014/Amd 1:2017)

Acoustique - Mesurage in situ de l'isolation acoustique des bâtiments et des éléments de construction - Partie 1: Isolation des bruits aériens - Amendement 1 (ISO 16283-1:2014/Amd 1:2017)

Akustik - Messung der Schalldämmung in Gebäuden und von Bauteilen am Bau - Teil 1: Luftschalldämmung (ISO 16283-1:2014/Amd 1:2017)

This amendment A1 modifies the European Standard EN ISO 16283-1:2014; it was approved by CEN on 18 September 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This amendment 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-CENELEC Management Centre has the same status as the official versions.

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

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 16283-1:2014/A1:2017 E

European foreword

This document (EN ISO 16283-1:2014/A1:2017) 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 Amendment to the European Standard EN ISO 16283-1:2014 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

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.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 16283-1:2014/A1:2017 has been approved by CEN as EN ISO 16283-1:2014/A1:2017 without any modification.

Acoustics — Field measurement of sound insulation in buildings and of building elements —

Part 1: Airborne sound insulation

AMENDMENT 1

3.14

Add the following note to entry:

Note 5 to entry: In the case of staggered or stepped rooms, S is the area of the partition that is common to both rooms. If the common area is 0 m^2, the apparent sound reduction index is undefined and therefore it is logical to use the standardized level difference. If it is necessary to quote the apparent sound reduction index (e.g. for regulatory purposes) for staggered or stepped rooms when the common area is greater than 0 m^2 but less than 10 m^2, the following procedure can be used. Calculate $V/7{,}5$, where V is the volume, in cubic metres, of the receiving room, which must be smaller than the source room unless the source and receiving rooms have identical volumes. If the common area is larger than $V/7{,}5$, then S equals the common area, otherwise, it equals the value, $V/7{,}5$.

4.1, first and the second paragraphs

Delete "0 or" from the relevant paragraphs.

4.2, first sentence

Delete "0 or" from the relevant sentence.

8.2.1, NOTE

Delete the last sentence.

8.5

Replace the text with the following:

8.5 Calculation of low-frequency energy-average sound pressure levels

8.5.1 Multiple loudspeakers operating simultaneously

When multiple loudspeakers are operated simultaneously, the corner sound pressure level, L_{Corner}, is the highest sound pressure level from the set of measured corners for each of the 50 Hz, 63 Hz and 80 Hz one-third octave bands after making any required correction for background noise according to 9.2.

NOTE For each of these bands, the highest sound pressure level can be associated with different corners in the room.

The low-frequency energy-average sound pressure level in the 50 Hz, 63 Hz and 80 Hz bands is calculated by combining L_{Corner} and the average value of L using Formula (12):

$$L_{\mathrm{LF}} = 10\lg\left[\frac{10^{0,1L_{\mathrm{Corner}}} + \left(2\times 10^{0,1L}\right)}{3}\right] \qquad (12)$$

Use Formula (1) to calculate the level difference by replacing L_1 and/or L_2 by L_{LF} depending on the room volumes. Calculate the standardized level difference using Formula (2), or the apparent sound reduction index using Formula (4), for the 50 Hz, 63 Hz and 80 Hz one-third octave bands.

8.5.2 Single loudspeaker operated at more than one position

For each loudspeaker position, the corner sound pressure level, L_{Corner}, is the highest sound pressure level from the set of measured corners for each of the 50 Hz, 63 Hz and 80 Hz bands after making any required correction for background noise according to 9.2.

NOTE For each of these bands, the highest sound pressure level can be associated with different corners in the room.

For each loudspeaker position, the low-frequency energy-average sound pressure level in the 50 Hz, 63 Hz and 80 Hz bands is calculated by combining L_{Corner} and the average value of L using Formula (12).

Use Formula (1) to calculate the level difference by replacing L_1 and/or L_2 by L_{LF} depending on the room volumes. For each loudspeaker position, calculate a standardized level difference using Formula (2), or an apparent sound reduction index using Formula (4), for the 50 Hz, 63 Hz and 80 Hz one-third octave bands. Finally, calculate the standardized level difference using Formula (6) or the apparent sound reduction index using Formula (7).

9.2, first paragraph

Replace the Formula reference in the last sentence to read “and the corner sound pressure level using Formula (13).”

Change the Formula reference number from (14) to (13).

9.2, second paragraph

Replace the Formula reference in the first sentence to read “The values for L_{sb} and L_{b} shall be reduced to one decimal place before use in Formula (13).”

Clause 11, first paragraph

Replace the Formula references to read “shall be calculated from the three one-third octave band values in each octave band using Formula (14) or (15) respectively.”

Change the Formula reference number from (15) to (14).

Change the Formula reference number from (16) to (15).

Clause 11, second paragraph

Replace the Formula references in the first sentence to read “The one-third octave band values shall be reduced to one decimal place before use in Formulae (14) and (15).”

Clause 14, f)

Add the following text:

(in the case of staggered or stepped rooms, indicate whether this is the common area or the value $V/7{,}5$ as indicated in 3.14).

C.4.4

Replace Formula (C.5) with the following formula:

$$R'_{\text{door\_app}} = -10\lg\left(10^{-R'_{\text{door}}/10} - 10^{-R'_{\text{door\_ins}}/10}\right) \quad \text{(C.5)}$$

Figure D.1

Replace Figure D.1 a) to i), k), m) and n) with the following figures: