INTERNATIONAL STANDARD

ISO 16283-1

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AMENDMENT 1
2017-10

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

Part 1: Airborne sound insulation

AMENDMENT 1

Acoustique — Mesurage in situ de l'isolation acoustique des bâtiments et des éléments de construction —

Partie 1: Isolation des bruits aériens

AMENDEMENT 1

Reference number
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This document was prepared by Technical Committee ISO/TC 43 *Acoustics*, Subcommittee SC 2, *Building acoustics*.

A list of all parts in the ISO 16283 series can be found on the ISO website.

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):

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

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).

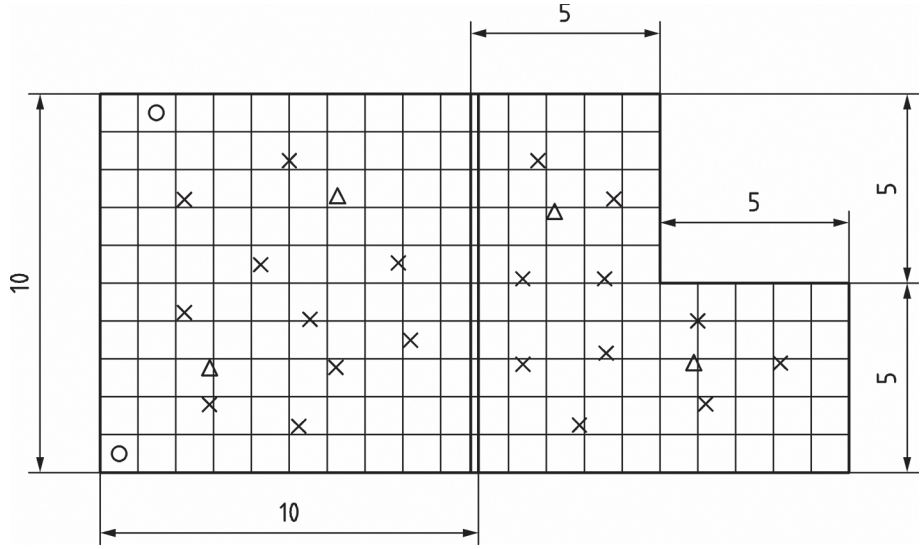
C.4.4

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

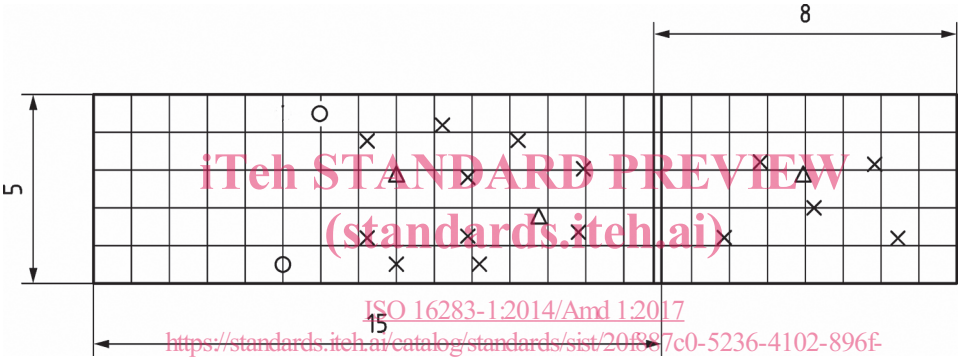
$$R'_{\text{door\_app}} = -10\lg\left(10^{-R'_{\text{door}}/10} - 10^{-R'_{\text{door\_ins}}/10}\right) \quad \text{(C.5)}$$

Figure D.1

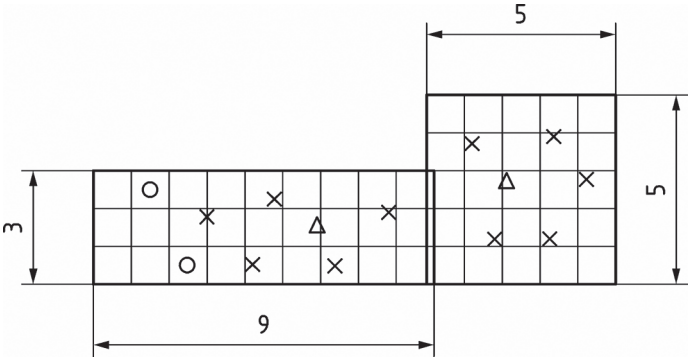
Replace Figure D.1 a) to i), k), m) and n) with the following figures:



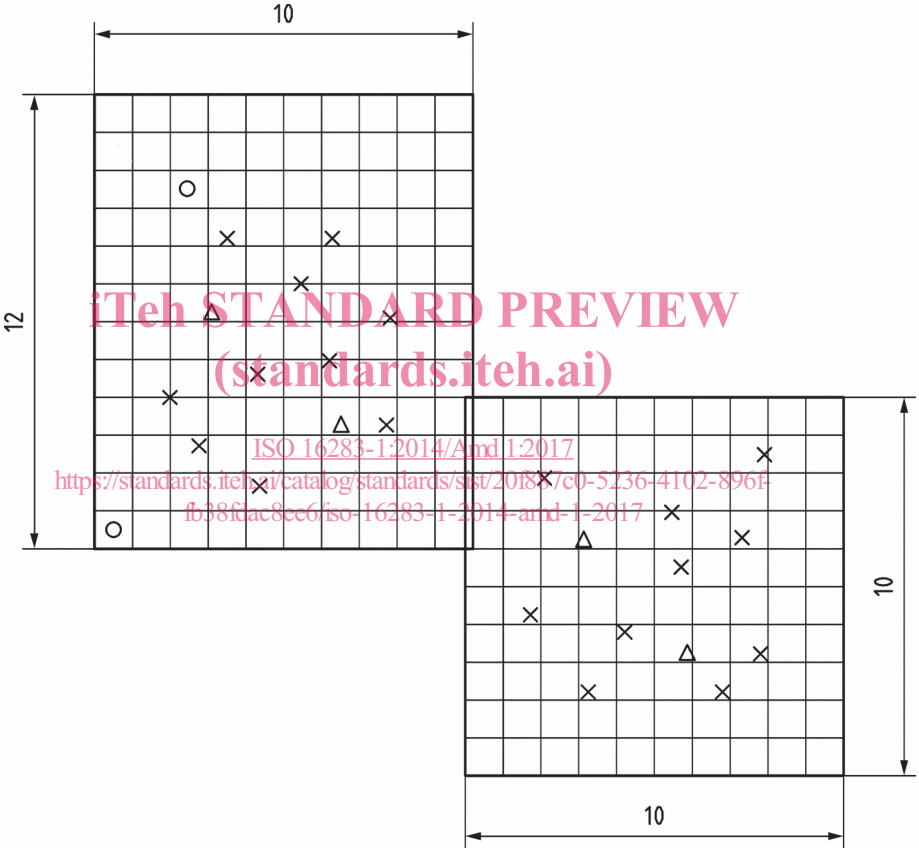
a) Example 1



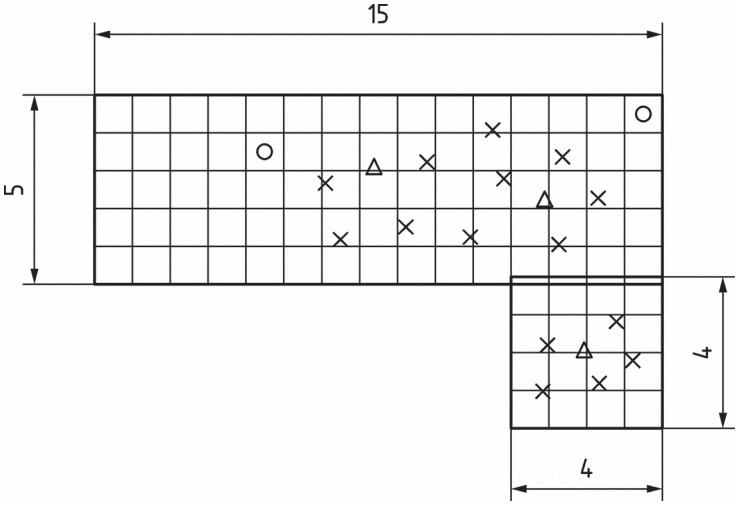
b) Example 2



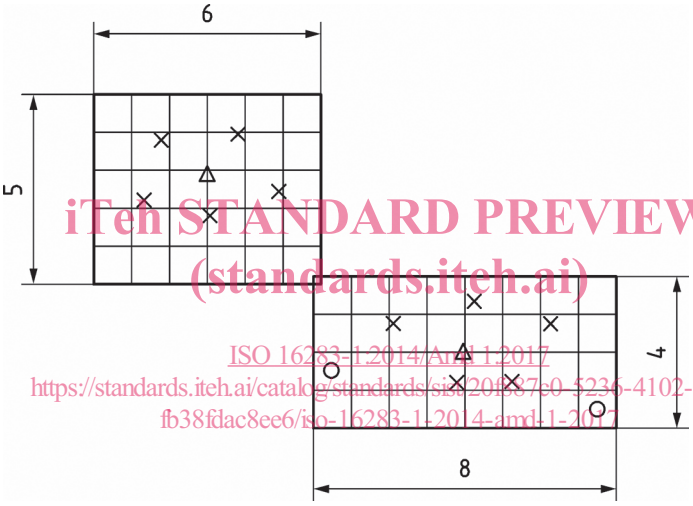
c) Example 3



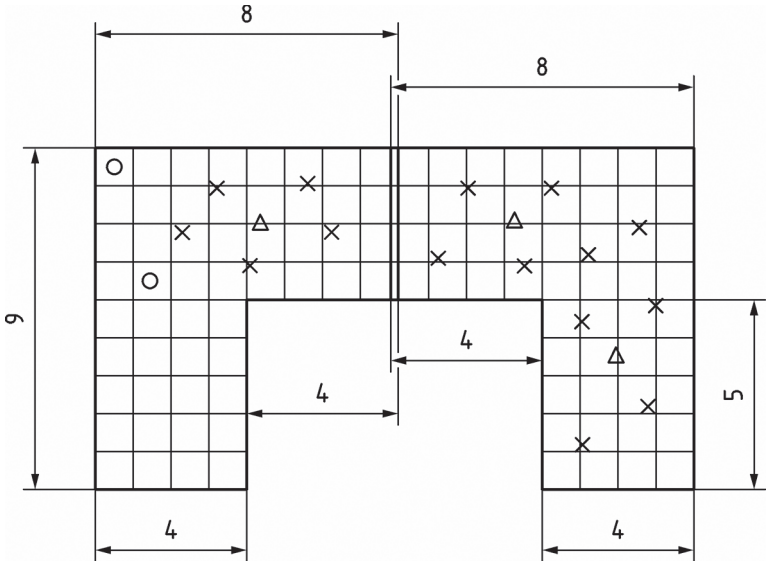
d) Example 4



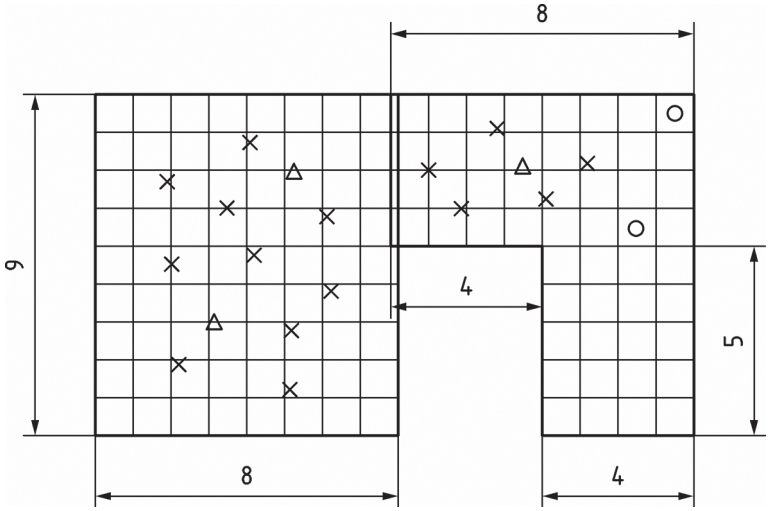
e) Example 5



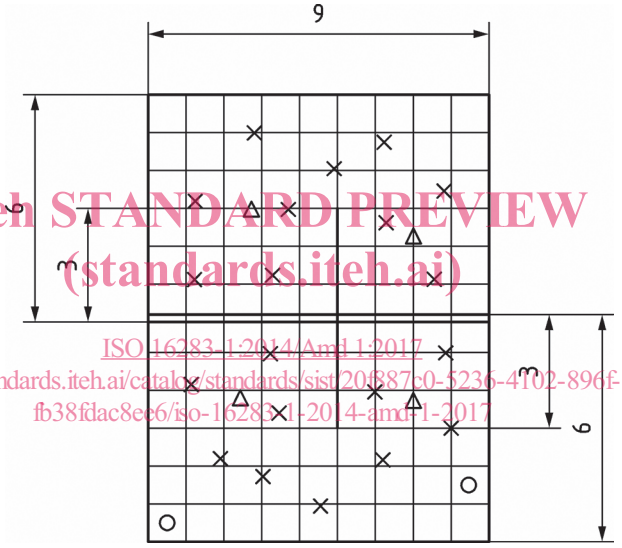
f) Example 6



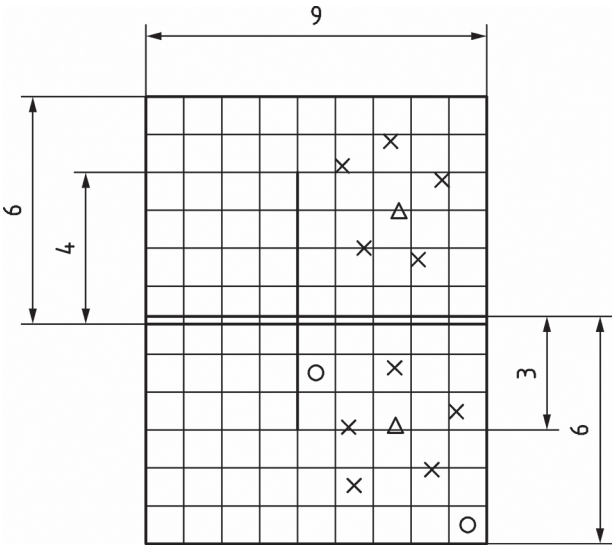
g) Example 7



h) Example 8



i) Example 9



k) Example 11