ASA/ANSI S12.2-2019

AMERICAN NATIONAL STANDARD

Criteria for Evaluating Room Noise

Secretariat:

Acoustical Society of America

Approved on May 21, 2019:

American National Standards Institute, Inc.

Abstract

This Standard provides three primary methods for evaluating room noise: a survey method that employs the A-weighted sound level; an engineering method that employs expanded noise criteria (NC) curves; and a method for evaluating low-frequency fluctuating noise using room noise criterion (RNC) curves.

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Accredited Standards Committee S12, Noise

Standards Secretariat
Acoustical Society of America
1305 Walt Whitman Road, Suite 300
Melville, NY 11747

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Foreword

[*This Foreword is for information only, and is not a part of the American National Standard ANSI/ASA S12.2-2019 American National Standard Criteria for Evaluating Room Noise. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.*]

This standard comprises a part of a group of definitions, standards, and specifications for use in noise. It was developed and approved by Accredited Standards Committee S12 Noise, under its approved operating procedures. Those procedures have been accredited by the American National Standards Institute (ANSI). The Scope of Accredited Standards Committee S12 is as follows:

> *Standards, specifications, and terminology in the field of acoustical noise pertaining to methods of measurement, evaluation, and control, including biological safety, tolerance, and comfort, and physical acoustics as related to environmental and occupational noise.*

This standard revises and replaces ANSI/ASA S12.2-2008, which has been withdrawn and technically revised. Changes have been made to the NC and dBA values for some spaces. The RC Mark II procedures of the 2008 edition remain briefly discussed in an informative Annex. This Standard provides three primary methods for evaluating room noise: a survey method that employs the A-weighted sound level; an engineering method that employs expanded noise criteria (NC) curves; and a method for evaluating low-frequency fluctuating noise using room noise criterion (RNC) curves.

This standard is not comparable to any existing ISO Standard.

At the time this Standard was submitted to Accredited Standards Committee S12, Noise, for approval, the membership was as follows:

Stephen J. Lind, *Chair*
Douglas F. Winker, *Vice-Chair*

Nancy Blair-DeLeon, *Secretary*

3M Personal Safety Division ..... Cameron Fackler

Acoustical Society of America ..... Robert D. Hellweg, Jr.
..... David Lubman (Alt.)

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Angelo J. Campanella*	David Lubman	Paul D. Schomer
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Robert D. Hellweg, Jr.	Matthew A. Nobile	Laura A. Wilber
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*deceased prior to publication

Working Group S12/WG 18, Criteria for Room Noise, which assisted Accredited Standards Committee S12, Noise, in the development of this standard, had the following membership:

Nicholas Sylvestre-Williams, Chair

Robert D. Hellweg, Jr.	Paul D. Schomer	Matthew Stead
Richard J. Peppin	Neil Shaw	George E. Winzer

Suggestions for improvements to this standard will be welcomed. They should be sent to Accredited Standards Committee S12, Noise, in care of the Standards Secretariat of the Acoustical Society of America, 1305 Walt Whitman Road, Suite 300, Melville, NY 11747. Telephone: 631-390-0215; FAX: 631-923-2875; E-mail: asastds@acousticalsociety.org.

American National Standard

Criteria for Evaluating Room Noise

1 Scope

The three primary methods for evaluating room noise are:

1. The survey method that employs the A-weighted sound level;
2. The engineering method that employs noise criteria (NC) curves; and
3. The method for evaluating low-frequency fluctuating noise using room noise criteria (RNC) curves.

This Standard also contains one ancillary set of criteria curves for evaluating acoustically induced vibrations or rattles.

Requirements are given in the body of the Standard for determining whether a:

1. Measured or estimated A-weighted sound level satisfies a specified noise criterion.
2. Set of octave-band sound pressure levels satisfies a specified NC curve.
3. Time-series of octave-band sound pressure levels satisfies a specified RNC curve.
4. Table of octave-band sound pressure levels that, when modulated by fluctuations at low frequencies, may cause perceptible vibrations or rattles in lightweight constructions.

Annex A presents examples of the use of RNC for evaluating measured or estimated sound level spectra in rooms.

Annex B presents a discussion of room criteria (RC), NC, balanced noise criteria (NCB), and RNC curves.

Annex C contains recommended noise level specifications for various occupied activity areas.

Annex D contains the procedures for use of the RC Mark II curves.

Annex E contains criteria for recording studios and other low-noise situations.

No guidance is given for the selection of equipment or the methods for measuring noise levels to be evaluated by the curves.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.