AMERICAN NATIONAL STANDARD

Criteria for Evaluating Room Noise

Accredited Standards Committee S12, Noise

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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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highest RNC curve is contacted by the 31.5-Hz octave band and has a value of RNC-40. So this spectrum is reported as an RNC-40 (31.5 Hz). The correction factor of 3.6 dB that is added to the measured LEQ in the 31-Hz octave band changes this spectrum from an RNC-31 (8 kHz) to an RNC-40 (31.5 Hz).

Figure A.2 — The spectrum of Example 2 plotted on the RNC curves. In this example sound exhibits 15-dB peak-to-peak sinusoidal surging and large turbulence. The standard deviation of the sound level in the 3-band sum combined 16, 31.5 and 63-Hz octave bands is 3.1 dB. Using the tangent method, the highest RNC curve is contacted by the 31.5-Hz octave band and has a value of RNC-44. So this spectrum is reported as an RNC-44 (31.5 Hz). The correction factor of 11.3 dB that is added to the measured LEQ in the 31.5-Hz octave band changes this spectrum from an RNC-25 (250 Hz) to an RNC-44 (31.5 Hz).

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Foreword

[This Foreword is for information only and is not a part of the American National Standard ANSI/ASA S12.2-2008 American National Standard Criteria for Evaluating Room Noise.]

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 is a revision of ANSI S12.2-1995, which has been technically revised. The NCB has been replaced by NC curves that have been extended down to 16 Hz, which makes them nearly the same as the NCB curves. The RC procedures of the 1995 edition now also are presented briefly in an informative Annex. This new 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.

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