AMERICAN NATIONAL STANDARD

Quantities and Procedures for Description and Measurement of Environmental Sound – Part 1: Basic Quantities and Definitions

ANSI/ASA S12.9-2013/Part 1

Accredited Standards Committee S12, Noise

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(Revision of ANSI S12.9-1988/Part 1)

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Quantities and Procedures for Description and Measurement of Environmental Sound - Part 1: Basic Quantities and Definitions

Secretariat:

Acoustical Society of America

Approved on February 27, 2013, by:

American National Standards Institute, Inc.

Abstract

This standard provides basic quantities for description of sound in community environments and general procedures for measurement of these quantities. Based on these quantities and procedures, compliance limits of sound may be specified by cognizant authorities and conformance with the limits controlled for purposes of environmental assessment, regulation, and land use planning.

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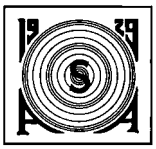

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Foreword

[*This Foreword is for information only, and is not a part of ANSI/ASA S12.9-2013/Part 1* American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound - Part 1: Basic Quantities and Definitions. *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 is a revision of ANSI S12.9-1988/Part 1, which has been technically revised.

This standard is the American National counterpart to International Standard ISO 1996-1:2003, with appropriate modifications to conform to American procedures and practice. This standard provides basic quantities and general procedures for the description and measurement of environmental sound in a community.

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

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Suggestions for improvements of 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, 35 Pinelawn Road, Suite 114E, Melville, New York 11747-3177. Telephone: 631-390-0215; FAX: 631-390-0217; E-mail: asastds@aip.org.

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Introduction

This standard describes basic quantities and general procedures for assessment of sound with respect to community response. Research on the ways in which people and communities are affected by common everyday noises in the environment has led to a variety of measures for assessment of different types of noise. The variety of measures has introduced some confusion about the relationship among the measures and their applicability for specific purposes. This standard defines consistent measures for physical quantities that may be used to measure and assess environmental sound.

Time-average A-weighted sound level is adopted in this standard as a basic quantity for all community sound except high-energy impulsive sound. A C-weighted sound exposure level is used to describe high-energy impulsive sounds such as blasts or sonic boom, and it may be used to describe other low-frequency sound sources such as industrial processes, transportation sources and electric power generating facilities. The Annex provides information concerning some of the basic quantities that have been used to describe certain environmental sounds.

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