**BSR/ASA S2.##-****20XX**

**(Revision of** **ANSI S2.##-yyyy)**

AMERICAN NATIONAL STANDARD

Standard Title

**Secretariat:**

**Acoustical Society of America**

**Draft - Not approved by:**

**American National Standards Institute, Inc.**

**Abstract**

The abstract should begin with the most important purpose(s) or recommendation(s) of the standard and should be self-contained so that it may be understood without reading the standard. It should contain a summary of the contents of the standard. The abstract shall not contain requirements. The relationship of the proposed standard to related standards or to previous versions of the standard (national or international) should be indicated. Write the text for the abstract with complete, connected sentences using active verbs and the third person. Abbreviations, symbols, references, and equations shall not be included in an abstract. The word count of an abstract should be limited to 250 words.

**AMERICAN NATIONAL STANDARDS ON ACOUSTICS**

The Acoustical Society of America (ASA) provides the Secretariat for Accredited Standards Committees S1 on Acoustics, S2 on Mechanical Vibration and Shock, S3 on Bioacoustics, S3/SC 1 on Animal Bioacoustics, and S12 on Noise. These committees have wide representation from the technical community (manufacturers, consumers, trade associations, organizations with a general interest, and government representatives). The standards are published by the Acoustical Society of America as American National Standards after approval by their respective Standards Committees and the American National Standards Institute (ANSI).

These standards are developed and published as a public service to provide standards useful to the public, industry, and consumers, and to Federal, State, and local governments.

Each of the Accredited Standards Committees (operating in accordance with procedures approved by ANSI) is responsible for developing, voting upon, and maintaining or revising its own Standards. The ASA Standards Secretariat administers Committee organization and activity and provides liaison between the Accredited Standards Committees and ANSI. After the Standards have been produced and adopted by the Accredited Standards Committees, and approved as American National Standards by ANSI, the ASA Standards Secretariat arranges for their publication and distribution.

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered and that a concerted effort be made towards their resolution.

The use of an American National Standard is completely voluntary. Their existence does not in any respect preclude anyone, whether he or she has approved the Standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the Standards.

NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this Standard.

Acoustical Society of America

Standards Secretariat

1305 Walt Whitman Road, Suite 300

Melville, New York 11747

Telephone: 1 (631) 390-0215

Fax: 1 (631) 923-2875

E-mail: standards@acousticalsociety.org

© 20XX by Acoustical Society of America. This standard may not be reproduced in whole or in part in any form for sale, promotion, or any commercial purpose, or any purpose not falling within the provisions of the U.S. Copyright Act of 1976, without prior written permission of the publisher. For permission, address a request to the Standards Secretariat of the Acoustical Society of America.

Contents

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Replace this with the first clause describing requirements 2

4.1 Notes on various styles 2

4.2 Equations 3

5 Tables 3

6 Figures 4

Annex A (Indicate if normative or informative) Insert Annex Title 7

A. Annex clause 7

**Tables**

[Table 1 – Sample table without notes or footnotes. 4](#_Toc27318972)

[Table 2 – Sample table with notes and footnotes. 4](#_Toc27318973)

**Figures**

[Figure 1 – Caption for sample Figure 1. 5](#_Toc25996621)

[Figure 2 – Caption for sample Figure 2. 6](#_Toc25996622)

Foreword

The Foreword shall include as many of the following items as appropriate: (1) a brief history of the standard, (2) special remarks about use or application of the standard, and (3) if it is a revision of an American National Standard, an explanation of the principal differences between the current and the previous version. If the proposed standard is a national adoption of an International Standard, the principal technical differences, if any, that were needed to make the International Standard conform to national requirements should be explained. Do not include material in the Foreword that is appropriate for the scope. No normative material or requirements shall be included in the Foreword. The content of the Foreword shall be within the scope of the document and the scope of the Accredited Standards Committee.

[*This Foreword is for information only, and is not a part of the American National Standard BSR/ASA S2.##-20XX American National Standard Standard Title. 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 mechanical vibration and shock. It was developed and approved by Accredited Standards Committee S2 Mechanical Vibration and Shock, under its approved operating procedures. Those procedures have been accredited by the American National Standards Institute (ANSI). The Scope of Accredited Standards Committee S2 is as follows:

*Standards, specification, methods of measurement and test, and terminology in the field of mechanical vibration and shock, and condition monitoring and diagnostics of machines, including the effects of exposure to mechanical vibration and shock on humans, including those aspects which pertain to biological safety, tolerance and comfort.*

This standard is/is not comparable to any existing ISO/IEC Standard. <If it is comparable to an ISO or IEC standard, explain here.>

This standard is/is not a nationally adopted international standard. (national adoption means it is identical and we changed nothing of the text in the ISO/IEC standard)

This standard is/is not a modified nationally adopted international standard. (modified means we did change some of the text in the ISO/IEC standard)

This standard is a revision of ANSI S2.##-yyyy, which has been technically revised. <Insert a brief description of the revision(s) contained in this edition.>

This standard includes ## Annexes. Annex A is normative and is considered to be a part of this standard. Annex B is informative and is not considered part of this standard.

At the time this Standard was submitted to Accredited Standards Committee S2, Mechanical Vibration and Shock, for approval, the membership was as follows:

James T. Nelson, *Chair*

Rich Peppin, *Vice-Chair*

Nancy Blair-DeLeon, *Secretary*

**Acoustical Society of America** James T. Nelson

Rich Peppin

**Association of American Railroads** George Page

Jeffrey Moller (Alt.)

**Calnetix** Larry A. Hawkins

Rasish Khatri (Alt.)

**Caterpillar, Inc.** Dan G. Roley

Charles Crowell (Alt.)

**Eckardt Johanning, MD, P.C.** Eckardt Johanning

**Emerson Electric – Copeland Corporation** Ali T. Herfat

**FLIR Systems** Ron Lucier

**Logan Mullinix Consulting** Logan Mullinix

**Mechanical Solutions, Inc.** William D. Marscher

Maki Onari (Alt.)

**National Institute for Occupational Safety and Health (NIOSH)** Ren Dong

Thomas W. McDowell (Alt.)

**National Institute of Standards & Technology** Michael Gaitan

**PCB Group** Nick Fulciniti

Chad M. Walber (Alt.)

**Power Tool Institute, Inc.** William D. Spencer

Mark Hickok (Alt.)

**Siemens Power Generation, Inc.** Max L'vov

**UE Systems, Inc.** Mark Goodman

**U.S. Air Force** Suzanne D. Smith

**U.S. Army Public Health Command** Steven Chervak

Jay Clasing (Alt.)

**U.S. Naval Surface Warfare Center – Carderock** Jason Smoker

Diedre Gilmer (Alt.)

**University of Washington, Dept. of Environmental and Occupational Health Sciences** Pete W. Johnson

**Vibration Institute** Ron L. Eshleman

Brian Biby (Alt.)

**Z-R Consulting** Zlatan Racic

Marin Racic (Alt.)

Individual Experts of Accredited Standards Committee S2, Mechanical Vibration and Shock, were:

|  |  |  |
| --- | --- | --- |
| Anthony J. Brammer | George Johnson | Robert Koch |
| Richard Peppin | Don Wasserman |  |
|  |  |  |

Working Group S2/WG ##, <Insert WG Title>, which assisted Accredited Standards Committee S2, Mechanical Vibration and Shock, in the development of this standard, had the following membership.

Name, Chair

Name (if there is a Vice Chair), Vice-Chair

MEMBER MEMBER MEMBER

MEMBER MEMBER MEMBER

MEMBER MEMBER MEMBER

MEMBER MEMBER MEMBER

Suggestions for improvements to this standard will be welcomed. They should be sent to Accredited Standards Committee S2, Mechanical Vibration and Shock, in care of the Standards Secretariat of the Acoustical Society of America, 1305 Walt Whitman Road, Suite 300, Melville, New York 11747. Telephone: 631-390-0215; FAX: 631-923-2875; E-mail: [standards@acousticalsociety.org](mailto:asastds@acousticalsociety.org).

Introduction

Replace this text with your introductory text. An introduction is optional. Do not duplicate the Scope or Foreword. Do not include any requirements. If a more detailed description of the background for the standard is considered appropriate, it shall be placed in an informative annex.

**Draft American National Standard**

Standard Title

# Scope

Insert the text here. The scope should explain what is and, if necessary, what is not covered by the proposed standard. The scope of a standard shall not exceed the approved scope of the Accredited Standards Committee. The scope shall not contain requirements. In standards that are subdivided into parts, the scope of each part shall describe only the subject of that part of the standard.

The statement of the scope of a standard shall cover as many of the following items as applicable:

1. general description of the subject of the standard, the aspects covered, and the fundamental assumptions on which the standard is based,
2. indication of the uses of the data or devices developed in accordance with the standard,
3. indication of the intended users of the standard,
4. a statement of the possible consequences of the use of the procedure, methods, or quantities addressed by the standard
5. a description of the applications, or field of applications, for the standard.

# 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.

Use Normal style for normative references. If no normative references are needed, delete the heading for “normative references” and begin the text at Clause 2 for “terms and definitions.” The following are examples of normative references; please replace with your own.

ANSI/ASA S1.4-2014/Part 1 /IEC 61672-1:2013 Electroacoustics – Sound Level Meters – Part 1: Specifications

ANSI/ASA S1.6-2016 American National Standard – Preferred Frequencies, Frequency Levels, and Band Numbers for Acoustical Measurements

IEC 60537:1976 Frequency weighting for the measurement of aircraft noise (D-weighting)

IEC 61012:1990 Filters for the measurement of audible sound in the presence of ultrasound

IEEE 260.4-2018 Standard for Letter Symbols and Abbreviations for Quantities Used in Acoustics

ISO 7196:1995 Acoustics – Frequency-weighting characteristic for infrasound measurements

# Terms and definitions

This is an OPTIONAL element. If there are terms that need to be defined for the purpose of this standard, define them here. Insert the text here using the Definition Style. See Clause 3 and Annex B of the *Editorial Guidelines for Preparation of American National Standards in Acoustics, Mechanical Vibration and Shock, Bioacoustics, and Noise* for guidance in creating definitions. Follow the format in the example below. Begin the clause with the following "boiler plate” language:

For the purposes of this standard, the terms and definitions given in <Insert designation of appropriate terminology standard, e.g., ANSI/ASA S2.1> and the following apply:

* 1. **term**. a technical word or phrase used in a specific context within this standard.
  2. **adaptor**. Mechanical fixture inserted between the microphone and preamp.

NOTE 1 For the purposes of this standard, the adaptor may be metal or plastic.

NOTE 2 An adaptor may have a screw or snap on connector.

# First requirements clause title

## Subclause with notes on various styles

Insert text describing the normative requirements of the standard here. Most text in clauses and subclauses is formatted using the Normal Style in 10 point type. Although there are some instances where you will use different styles, which are listed in the following subclauses.

### 2nd level subclause with notes and examples

Notes and examples use the Note Style. The format for placing notes in a standard is slightly different if there is one note or example being inserted or two or more.

Example of a single note:

NOTE When a single note is inserted it is not numbered. Using the NOTE Style, type the word NOTE in capitals and strike the TAB key to position the cursor to begin the note.

Example of insertion of two or more notes:

NOTE 1 The word "NOTE" preceded the numeral that is assigned to the NOTE.

NOTE 2 Each note is numbered, with no en-dash or other punctuation separating the number and the text, just a blank space.

Notes and examples should be placed at the end of the clause or subclause, or after the paragraph to which they refer.

EXAMPLE Notes and Examples integrated into the text of a standard are preceded by the word NOTE or EXAMPLE in all capital letters.

#### 3rd level subclause with information about Lists

Insert the text here using the Normal Style. When you want to create a list, choose the list type from the styles offered.

* List Bullet styles (for unordered lists)

1. List Number styles (for ordered lists)

##### 4th level subclause

Insert subclause text here using the Normal Style.

## Equations

Each equation should be numbered within parenthesis at the right-hand margin as shown. Use the Equation Style for the equations and their numbering.

The level is given by

|  |  |
| --- | --- |
|  | () |

where *p*0 is 20 Pa.

The area of a circle is given by

|  |  |
| --- | --- |
|  | () |

where *r* is the radius.

The Taylor expansion is given by

|  |  |
| --- | --- |
|  | () |

The Fourier series is given by

|  |  |
| --- | --- |
|  | () |

# Tables

Tables should be prepared using the Table layout tool. Format the table caption with the Table Caption style. Format the table content using one of the Table Text styles.

Table 1 – Sample table without notes or footnotes.

|  |  |  |
| --- | --- | --- |
| **Type** | **Distance (m)** | **Sound Pressure Level (dB)** |
| 1 | 1.0 | 50 |
| 2 | 1.5 | 55 |
| 3 | 2.0 | 60 |
| 4 | 2.5 | 65 |
| 5 | 3.0 | 70 |
| 6 | 3.5 | 75 |
| 7 | 4.0 | 80 |
| 8 | 4.5 | 85 |

Place notes and footnotes within the frame of the table. Indicate notes to a table by the sequence NOTE 1, NOTE 2, etc., with a new sequence for each table.

A single note shall be preceded by the word NOTE.

Table 2 – Sample table with notes and footnotes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category 1** | **Category 2** | **Category 3** | **Category 4** | **Category 5** |
| 100 | 200a | 300 | 400 | 500 |
| NOTE Insert Table Note text here | | | | |
| a Insert Table footnote here using the Table Footnote Style | | | | |

# Figures

You may want to insert information or graphs. Use the Figure Caption Style to format the figure number and caption. Figure numbers and titles are centered below the figure. Figures shall be centered, cropped, and sized so that text in the figure, including axis labels, appear the same size as normal 10 pt. type in the main text of the standard. The Figure is inserted as an enhanced windows meta file (\*.emf).

Figure 1 – Caption for sample Figure 1.

Both notes and footnotes to figures shall be treated independently from notes integrated in the text. They shall be located above the title of the relevant figure. Notes shall precede figure footnotes (if any).

Figure 2 – Caption for sample Figure 2.

1. (Indicate if normative or informative)   
     
   Insert Annex Title
2. Annex clause

The clauses, subclauses, tables, figures and mathematical formulae of an annex shall be numberedusing the letter designating that annex followed by a period (full stop) then the numeral(s) for that clauseor subclause. The numbering shall restart with each annex. A single annex shall be designated“Annex A”.

Use Styles A.2, A.3, etc., to generate headings for clauses and subclauses within an annex.

* 1. Description of normative annex

A normative annex shall be referred to as such in the main body of the standard, by the second line of the title of the annex, by the listing of the annex in the Contents, and by the choice of the verb forms for the text of the annex.

* 1. Description of an informative annex

Informative annexes provide additional, but non-essential information. They are provided only for clarification, illustration, and general information about the standard. For many standards it is appropriate and desirable to include additional related information for general use and guidance. Such information, however, cannot be a normative part of the standard and is appropriately included in an informative annex.

No material that is rightfully a normative part of a standard shall be placed in an informative annex. The material in an informative annex shall be within or closely related to the scope of the standard and not inconsistent with the standard itself. If the material is rightfully part of the standard, it shall be included as a normative annex and so identified as described in 3.22.3.

NOTE Although an informative annex is not a normative part of a standard, it is included in the overall approval process by the Standards Committee.

Examples of material appropriate for an informative annex include:

* 1. Remarks about significance and interpretation of the standard, for example, to amplify or explain a statement in the text of the standard;
  2. Background for, and development of, equations used in calculations;
  3. Charts, tables, graphs, or supplementary information needed for computations;
  4. Data forms for recording of test results (such forms may also be given in a normative annex);
  5. Comments on the rationale for development of the method or procedure in the standard;
  6. Software accompanying a standard.
  7. Information about software accompanying a standard and instructions for its use.

An informative annex may contain equations, tables, and figures but may not include normative information, such as requirements. Such equations, tables, and figures shall have an identification that is unique to each annex.

Bibliography

1. Surname, Initials or First name of Author. *Title of Book.* City of Publication: Publisher, year.
2. Surname, Initials or First name of Primary Author, First name Surname of Second Author. *Title of Book.* City of Publication: Publisher, year.
3. Surname, Initials or First name of Primary Author, First name Surname of Second Author. "Title of Article*.*" *Title of Journal,* Volume number, year: pages.
4. Surname, Initials or First name of Primary Author, First name Surname of Second Author. "Title of Article*.*" *Title of Journal,* Volume number, year: pages. <http://www.online-location.com>