ICS 91.120.20
CCS A 59

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 36075.1-2018

Acoustics -- Measurement of room acoustic parameters -- Part 1: Performance spaces

Issued on: March 15, 2018 **Implemented on: October 1, 2018**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Table of Contents

Foreword

GB/T 36075 Acoustic Acoustic Acoustic Measurements includes the following three parts.

---Part 1. The viewing space;

---Part 2. General room reverberation time;

---Part 3. Open Office.

This part is the first part of GB/T 36075.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to the use of ISO 3382-1.2009 "Acoustic acoustical indoor acoustics measurement Part 1. the viewing space."

The Chinese documents that have a consistent correspondence with the normatively quoted international documents in this section are as follows.

---GB/T 3241-2010 Electroacoustic octave and fractional octave filters (IEC 61260.1995 and AM1.2001,

MOD)

---GB/T 3785.1-2010 Electroacoustic sound level meter Part 1. Specification (IEC 61672-1.2002, IDT)

This section was proposed by the Chinese Academy of Sciences.

This part is under the jurisdiction of the National Acoustical Standardization Technical Committee (SAC/TC17).

This section was drafted by. Institute of Acoustics, Chinese Academy of Sciences, China Academy of Building Research, Tsinghua University, South China University of Technology, Guangdong

Source Construction Engineering Design Institute Co., Ltd. Acoustics Branch, Beijing

Ruiante Acoustic Decoration Engineering Co., Ltd., Shenzhen Zhongfu Thai Cultural Building

Set up a joint stock company, Fujian Provincial Academy of Building Sciences, Zhongji Zhonglian Engineering Co., Ltd., Beijing Rui Ante Radio and Television Design Institute.

Introduction

Reverberation time has always been regarded as the dominant acoustic performance parameter of indoor sound quality. While reverberation time is an important parameter,

To fully evaluate the acoustic quality of the room, it is also necessary to measure other acoustic parameters. These parameters include. relative sound pressure level, early/late acoustic energy ratio, side

Directional acoustic energy ratio, binaural cross-correlation function, and background noise level.

This part of GB/T 36075 provides a method for obtaining the reverberation time based on the impulse response method and the interrupt sound source method. Introduced in the appendix

Some of the concepts and details of new acoustical parameters measurements, but these appendices are not normative in this section. This section aims to make reverberation time measurement

The quantity has high certainty and comparability of measurement results, promotes the application of new parameters and reaches consensus on new parameter measurements.

Appendix A proposes some measurements based on the square of the impulse response, including deeper reverberation measurements in the hall (in early decays

) and relative sound pressure levels, early/late acoustic energy ratios, and lateral acoustic energy ratio measurements. In this regard, further work is needed to determine which parameters are most suitable

Should be standardized. Because these parameters are derived from the impulse response, it is necessary to introduce the impulse response as the basis for the standard measurement.

Appendix B describes the head and torso simulator (artificial head) required for binaural and binaural measurements. Appendix C describes impulse response based

The sound quality parameters of the stage are measured. These measures help to evaluate the sound quality from the musician's point of view.

Acoustic indoor acoustic parameters measurement

Part 1. Watching the Space

1 Scope

This part of GB/T 36075 specifies the measurement methods, measurement steps, and measurement settings for the reverberation time and other sound quality parameters of the viewing room.

Preparation, coverage, results evaluation, and test report formats for acoustic measurements using modern digital technologies and for impulse-based response

The evaluation of the indoor sound quality parameters.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

IEC 61260 Electroacoustic Octave and Fractional Octave Filters (Electroacoustics-Octave-bandandfractional-

Octave-bandfilters)

IEC 61672-1 Electroacoustic Sound Level Meter Part 1. Specification (Electroacoustics-Soundlevelmeters-Part 1.

Specifications)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Decay curve decaycurve

Describes the pattern of decay of sound pressure levels over time in a room after the sound source stops sounding.

[GB/T 20247-2006, Definition 3.1]

Note 1. The decay curve can be measured either after continuous noise interruption in the room or by inverse integration of the impulse response.

Note 2. It is not recommended to directly use the curve obtained by the non-continuous sound source to accurately measure the reverberation time of the room (for example, using a starting gun as a sound source, recording with sound level)

The instrument is recorded. This method can only be used for investigative simple-level measurements. Usually the room impulse response is not simply exponentially decaying, its slope is

The results obtained from the integral of the impulse response are not the same.

3.2

Interrupted sound source method interruptednoisemethod

A method of obtaining a decay curve by directly recording the decay of the sound pressure level after an excitation of a broadband or narrowband sound source in the room to interrupt the sound.

[GB/T 20247-2006, definition 3.3]

3.3

Impulse response integration method integratedimpulseresponsemethod

The method of obtaining the decay curve by integrating the inverse of the square of the impulse response against time.

[GB/T 20247-2006, definition 3.4]

3.4

Impulse response

The time-varying sound pressure formed by the Dirac pulse emitted from one point in the room at another point.