

ICS 91.120.20

CCS A 59



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 36075.2-2018

**Acoustics -- Measurement of room acoustic parameters -- Part
2: Reverberation time in ordinary rooms**

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

Introduction

1 Scope

2 Normative references

3 Terms and definitions

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 part 2 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 identical to the use of ISO 3382-2:2008 "Acoustic acoustical indoor acoustics measurement Part 2. Common room mix

Ringing time.

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 25079-2010 Acoustics Acoustics and room acoustics in the application of new measurement methods MLS and SS methods

(ISO 18233:2006, 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, Tongji University, South China University of Technology

Science, Fujian Provincial Academy of Building Sciences, Shenzhen Zhongfu Thai Cultural Building Construction Co., Ltd, Zhongji Zhonglian Engineering Co., Ltd., and Wanda Wen

Tourism Planning and Research Institute Co., Ltd., Wenzhou Jianzheng Energy Saving Technology Co., Ltd.

Introduction

This part of GB/T 36075 specifies reverberation time measurements for three levels of measurement accuracy, including simple, engineering, and precision levels.

The main difference is that the required number of measurement points is different, so the total measurement time is also different. Appendix A contains reverberation time measurement is not

Some degree of certainty information. The introduction of simple-level measurement options is designed to make reverberation times measured more frequently in related rooms. Obviously, a very

Simple measurements are better than no measurements.

The reverberation time measurement needs are mainly of two levels. first, the sound pressure level of the noise source, verbal intelligibility, and the privacy of the sound in the room

Both are closely related to the reverberation time of the rooms. The rooms include rooms, stairwells, workshops, factory workshops, school classrooms, offices, restaurants, and exhibitions.

Room, sports room, passenger station room, airport terminal building, etc.; Secondly, in the acoustic measurement, the reverberation time must be measured in order to determine the correction of room absorption.

Sound insulation measurement according to GB/T 19889 (all parts) and sound power measurement according to GB/T 14367.

China's relevant building codes stipulate reverberation time requirements for classrooms and other rooms, but for the vast majority of rooms, designers are required to

The corresponding functional requirements of the rooms are used to determine the reverberation time indicators and to make a rational design. This part of GB/T 36075 aims to regulate reverberation

Measure the time and agree on its importance to the sound quality of the room and promote its application.

This part of the GB/T 36075 specifies two different evaluation ranges for determining the reverberation time, namely 20 dB and 30 dB. Recommended first choice

The 20dB assessment range is due to the following reasons.

- a) that the subjective evaluation of reverberation time is related to the early part of the decay process;
- b) that the early part of sound energy decay should be used when estimating the steady state sound pressure level from the room reverberation time;
- c) Signal-to-noise ratio is often a problem with on-site measurements. It is generally difficult to obtain an assessment range of more than 20 dB. This range requires at least 35dB signal to noise ratio.

Traditional measurement techniques are based on visual inspection of each decay curve, but with modern measurement equipment, the decay curve is usually not displayed, which may be

Unusual decay curves are introduced for the risk of reverberation time calculations. For this purpose, Appendix B describes the degree of non-linearity and curvature of the quantified decay curve.

The method of degree of music. These quantitative analyses can be used to warn when the decay curve is nonlinear, in which case the measurement results should be marked

Unreliable or not unique reverberation time.

For the use of rotating microphones to measure the decay curve, given that the physical meaning of the measurement process is not clear enough, the regulations are only in use.

The use of a rotary microphone is allowed only when the source method is used and the measurement results are only used to calculate measurement corrections.

Other standards concerning the measurement of reverberation time are GB/T 36075.1 and GB/T 20247-2016. The former includes the hall and the viewing space.

Measured, the latter being sound absorption measurements in the reverberation chamber, but neither of these criteria applies to normal rooms as described above. Therefore, the GB/T 36075

Partially fills the gap in building acoustic performance measurements.

This part of GB/T 36075 does not repeat the technical regulations of GB/T 36075.1. This part only deals with the reverberation time of various rooms.

measuring.

Acoustic room acoustic parameters measurement Part 2.

Ordinary room reverberation time

1 Scope

This part of GB/T 36075 specifies the measurement method, measurement procedure, measurement equipment, number of measurement points, and results of reverberation time in common rooms.

Evaluation and test report style.

The measurement results can be used to calculate the correction term in acoustic measurements such as sound pressure level measurement and sound insulation measurement, and can be used to reverberate with the room.

Time design requires comparison.

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.

GB/T 36075.1-2018 Measurement of Acoustic Parameters in Acoustic Chambers Part 1. Viewing Space (ISO 3382-1:2009, IDT)

ISO 18233 Acoustics-Application of new Acoustics-Application of new in Architectural Acoustics and Room Acoustics

Measurement methods in building and room acoustics)

IEC 61260 Electroacoustic Octave and Fractional Octave Filters
(Electroacoustics-Octave-band and fractional-

Octave-band filters)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Decay curve decay curve

Describes a graph in which the sound pressure level decays with time in a room in the room after the sound source stops sounding.

[GB/T 20247-2006, Definition 3.1]