



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

GB/T 19889.7-2022

**Acoustics - Measurement of sound insulation in buildings and
of building elements - Part 7: Field measurement of impact
sound insulation**

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Table of Contents

foreword

Introduction

1 Scope

2 Normative references

3 Terms and Definitions

foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents" drafted.

This document is part 7 of GB/T 19889 "Measurement of Sound Insulation for Acoustic Buildings and Building Components". GB/T 19889 has been released

The following parts.

- Part 1. Requirements for laboratory test facilities with suppressed lateral sound transmission;
- Part 2. Measurement uncertainty evaluation and application;
- Part 3. Laboratory measurements of airborne sound insulation of building components;
- Part 4. On-site measurement of airborne sound insulation between rooms;
- Part 5. On-site measurement of external wall components and airborne sound insulation of external walls;
- Part 6. Laboratory measurements of floor impact sound insulation;
- Part 7. On-site measurement of impact sound insulation;
- Part 8. Laboratory measurement of the impact sound improvement of the cladding of heavy standard floor slabs;
- Part 10. Laboratory measurements of airborne sound insulation of small building elements;
- Part 14. Guidelines for special field measurements;
- Part 18. Laboratory measurements of rain noise sound insulation of building components.

This document replaces GB/T 19889.7-2005 "Acoustic Building and Building Components Sound Insulation Measurement Part 7.Floor Impact Sound Insulation

"On-site Measurement", which partially replaces GB/T 19889.14-2010 "Acoustic Building and Sound Insulation Measurement of Building Components Part 14.Special

Compared with GB/T 19889.7-2005, except for structural adjustment and editorial changes, the main technical changes are as follows.

--- Expanded the scope of application (see Chapter 1, Chapter 1 of the.2005 edition);

--- Added a method for measuring and evaluating the sound insulation of heavy and soft impact sound with a rubber ball as the impact source (see Chapters 1 to 7, Section 1.

Chapter 10 ~ Chapter 14, A.2);

--- Added some terms and definitions (see Chapter 3);

--- Clarifies that the operator can be present in the room during the measurement, and clarifies how to measure sound using a hand-held microphone or sound level meter

Field (see Chapter 6, 7.3.1, 7.5, 7.7.3, 9.1, 10.1);

--- Deleted the method of measuring sound insulation in octave frequency band width (see Appendix B of the.2005 edition);

--- Increased the low-frequency measurement procedure for small rooms (see Chapter 8 to Chapter 10, Appendix C of the.2005 edition);

--- Added the appendix "Speaker Requirements for Reverberation Time Measurement" (see Appendix B);

--- Incorporated into this document the special on-site measurement guidelines related to impact sound insulation measurement in GB/T 19889.14-2010 (see Section 1

Chapter, Appendix C ~ Appendix E).

This document is modified to adopt ISO 16283-2:2020 "In-situ measurement of sound insulation of acoustic buildings and building elements - Part 2.Impact sound

Soundproofing".

Compared with ISO 16283-2:2020, this document has made the following structural adjustments.

--- Change the four manual scanning paths from the 2-level clause to the 3-level clause under 7.5.4 (see 7.5.4.1~7.5.4.4);

---Appendix C, appendix D, appendix E and appendix F correspond to appendix D, appendix E, appendix F and appendix in ISO 16283-2:2020 respectively

Record C.

The technical differences between this document and ISO 16283-2:2020 and their reasons are as follows.

--- Regarding normative reference documents, this document has made adjustments with technical differences to facilitate domestic use, and the adjustments are concentrated.

Reflected in Chapter 2 "Normative References", the specific adjustments are as follows.

* Replacing IEC 61260 (all parts) with GB/T 3241 modified to adopt international standards (see 4.1, 4.3);

* Replace IEC 61672-1 with GB/T 3785.1 which is equivalent to adopting international standards (see 4.1, 4.3);

* Replace IEC 60942 with GB/T 15173 which is equivalent to adopting international standards (see 4.2);

* Replace IEC 61183 with GB/T 17312 which is equivalent to international standard (see 4.3);

* Replace ISO 12999-1 (see Chapter 13) with GB/T 19889.2 modified to adopt international standards;

* Replace ISO 18233 with GB/T 25079 which is equivalent to adopting international standards (see Chapter 6, 10.1);

* Replace ISO 3382-2 with GB/T 36075.2 which is equivalent to adopting international standards (see 4.1, 10.1);

* ISO /IEC 17025 (see 4.3) is replaced by GB/T 27025 which is equivalent to adopting international standards.

--- Deleted the "level 0" requirement for sound pressure level measurement equipment, because there is no "level 0" in GB/T 3785.1 and IEC 61672-1

(see 4.1).

The following editorial changes have also been made to this document.

--- Modified the file name to harmonize with other parts of GB/T 19889;

---The "Scope" chapter further clarifies the content and scope of application stipulated in this document;

--- Change the clauses describing the ISO and IEC standard terminology database website to note (see Chapter 3);

--- Added the explanation of the reference sound pressure p_0 in formula (12) (see 7.8.2);

--- Modified the interpretation of the symbols in the formula under some formulas (see 7.8.1, 7.8.3);

--- Corrected editorial errors in the description of symbols in Appendix E (see E.2).

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

The International Standard for the Measurement of Sound Insulation in Buildings, ISO 140 (all parts), Measurement of Sound Insulation in Acoustical Buildings and Building Elements, has been revised and changed

standard number and standard name. Among them, the original standard number and standard name of the relevant part involving laboratory sound insulation measurement were changed to

ISO 10140 (all parts) "Laboratory Measurement of Sound Insulation of Acoustic Building Components", divided into five parts; the relevant part originally involved on-site measurement

The standard number and name of the standard are changed to ISO 16283 (all parts) "On-site measurement of sound insulation of acoustic buildings and building elements", which is divided into three

Part; The standard number and standard name of Part 2, which originally dealt with the uncertainty of sound insulation measurement, were changed to ISO 12999-1 "Acoustics in Building Acoustics"

Evaluation and application of measurement uncertainty - Part 1. Sound insulation. GB/T 19889 (all parts) "Acoustic building and sound insulation of building components

Measurement" (first edition) is a Chinese standard transformed by the international standard ISO 140. The revision of this series of sound insulation measurement standards in my country will still be used.

The standard number of GB/T 19889.

GB/T 19889 "Measurement of Sound Insulation for Acoustic Buildings and Building Components" is the basic method standard for sound insulation measurement in my country, which aims to standardize and guide

Sound Insulation Measurement of Buildings and Building Components in my country, GB/T 19889 (first edition) is undergoing or about to be revised by standards.

It consists of nine parts.

--- Part 1. Requirements for laboratory testing facilities and equipment. Corresponds to ISO