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

GB/T 45305.3-2026

Replacing GB/T 19889.6-2005

**Acoustics - Laboratory measurement of sound insulation of
building elements - Part 3: Measurement of impact sound
insulation**

声学 建筑构件隔声的实验室测量 第3部分：撞击声隔声测量

(English Translation)

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Foreword

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

Drafting is scheduled.

This document is Part 3 of GB/T 45305, "Laboratory Measurement of Sound Insulation of Acoustic Building Components". GB/T 45305 has been published.

The following parts were included.

---Part 2: Measurement of Airborne Sound Insulation;

---Part 3: Impact Sound Insulation Measurement;

---Part 4: Measurement Procedures and Requirements;

---Part 5: Requirements for testing facilities and equipment.

This document replaces GB/T 19889.6-2005 "Acoustics of Buildings and Building Components - Measurement of Sound Insulation - Part 6: Impact Sound Insulation of Floors".

Compared with GB/T 19889.6-2005, the main technical changes in "Laboratory Measurements" are as follows, except for structural adjustments and editorial modifications.

---Test methods for alternative impact sources have been added (see Chapter 1, 5.2, and Appendix A);

---Added corrections for the effects of airborne sound transmission (see 5.4);

---The appendix on "Requirements for Standard Impactors" has been deleted and replaced with a normative reference to Appendix E of GB/T 45305.5-2026 (see Appendix E).

Chapter 4, 5.2 (Appendix A of GB/T 19889.6-2005)

---The appendix on "Measurement of Lateral Sound Transmission" has been deleted and replaced with Appendix A of GB/T 45305.5-2026 (see Appendix A).

Chapters 4 and 7, Appendix B of GB/T 19889.6-2005);

---The appendix on "Low-Frequency Band Measurement Guidelines" has been deleted and replaced with informative reference to Appendix A of GB/T 45305.4-2025 (see 5.1).

(Notes to A.4.3.3 and A.4.3.3, Appendix C of GB/T 19889.6-2005)

---The appendix on "Measurement of Total Loss Factor" has been deleted and replaced with informative reference to section 4.7 of GB/T 45305.4-2025 (see 6.2.1).

Chapter 9, Appendix D of GB/T 19889.6-2005.

This document is modified to adopt ISO 10140-3:2021 "Laboratory measurements of acoustic insulation of building components - Part 3: Impact sound insulation".

Measurement".

The technical differences between this document and ISO 10140-3:2021, and the reasons therefor, are as follows.

---ISO 10140-5:2021 has been replaced by the normatively referenced GB/T 45305.5-2026 (see Chapters 1, 4, 5.2, and 6).

2.1 (Chapter 7), to adapt to my country's technological conditions and increase operability;

---ISO 12999-1 (see Chapter 8) has been replaced with the normatively referenced GB/T 19889.2 to adapt to my country's technical conditions;

---ISO 10140-4:2021 (see 5.1, 5.3, 5.4, 6.2.1 and GB/T 45305.4-2025) has been replaced by the normatively referenced GB/T 45305.4-2025.

Chapter 9), to adapt to my country's technological conditions.

The following editorial changes have been made to this document.

---Added informative supplementary information (see note 5.1);

---Replace informative references IEC 60942, IEC 61260-1 and IEC 61672-1 in Appendix A with GB/T 15173.

GB/T 3241 (all parts) and GB/T 3785.1 are provided for ease of use;

---Informative reference document GB/T 50121 has been added (see 5.3, Chapter 9);

---Corrected a typographical error in paragraph 2 of A.2, removing the phrase "level 0";

---Corrected the typographical error in A.3; "see Chapter 5" has been changed to "see Chapter 6".

---Some references have been added.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Chinese Academy of Sciences.

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

Introduction

GB/T 45305, "Laboratory Measurement of Sound Insulation of Acoustic Building Components," covers laboratory measurement methods for the sound insulation of building

components, aiming to standardize...

Improve the layout of laboratory sound insulation measurements to ensure consistency and simplify the handling of variations in specimen installation conditions and the need for additional measurements.

The revision of the stoppage time will consist of five parts.

---Part 1: Application Rules for Specific Products. The aim is to provide appropriate testing methods for laboratory measurements of the sound insulation of specific components and products.

The procedure includes specific requirements for specimen preparation, installation, operation, and testing conditions.

---Part 2: Measurement of Airborne Sound Insulation. The purpose is to provide a general measurement procedure for measuring the airborne sound insulation of building components in a laboratory setting.

---Part 3: Impact Sound Insulation Measurement. The purpose is to provide a general measurement procedure for measuring the impact sound insulation of floor slab components in the laboratory.

---Part 4: Measurement Procedures and Requirements. The purpose is to provide laboratory measurement procedures for airborne and impact sound insulation of building components.

Basic measurement techniques and testing procedures.

---Part 5: Requirements for Testing Facilities and Equipment. The purpose is to provide guidelines for the design, construction, and qualification of sound insulation measurement laboratory testing facilities.

Detailed information required for application, additional devices, and measuring instruments and equipment.

Laboratory measurements of sound insulation of acoustic building components Part 3:
Impact Sound Insulation Measurement

1 Scope

This document describes a laboratory method for determining the impact sound insulation performance of floor slab components using sound pressure measurement.

The measurement results are used for comparing and classifying the impact sound insulation performance of floor slabs, which helps in designing building products with certain sound insulation properties.

Estimate the on-site sound insulation performance of the building after completion.