First edition
2017-07

# Building acoustics — Estimation of acoustic performance of buildings from the performance of elements —

## Part 2: Impact sound insulation between rooms

*Acoustique du bâtiment — Calcul de la performance acoustique des bâtiments à partir de la performance des éléments —*

*Partie 2: Isolement acoustique au bruit de choc entre des locaux*

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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# Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 126, *Acoustic properties of building elements and of buildings*, in collaboration with ISO Technical Committee TC 43, *Acoustics*, SC 2, *Building acoustics*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces ISO 15712-2:2005, which has been technically revised.

A list of all the parts in the ISO 12354 series can be found on the ISO website.

 

# Introduction

This document is part of a series specifying calculation models in building acoustics.

Although this document covers the main types of building construction it cannot as yet cover all variations in the construction of buildings. It sets out an approach for gaining experience for future improvements and developments.

The accuracy of this document can only be specified in detail after widespread comparisons with field data, which can only be gathered over a period of time after establishing the prediction model. To help the user in the meantime, indications of the accuracy have been given, based on earlier comparisons with comparable prediction models and an estimation procedure, similar to the one proposed in ISO 12354-1 for airborne sound insulation, can be used for impact sound insulation. It is the responsibility of the user (i.e. a person, an organization, the authorities) to address the consequences of the accuracy, inherent for all measurement and prediction methods, by specifying requirements for the input data and/or applying a safety margin to the results or applying some other correction.

This document is intended for acoustical experts and provides the framework for the development of application documents and tools for other users in the field of building construction, taking into account local circumstances.

The calculation models described use the most general approach for engineering purposes, with a clear link to measurable quantities that specify the performance of building elements. The known limitations of these calculation models are described in this document. Other calculation models also exist, each with their own applicability and restrictions.

The models are based on experience with prediction for dwellings; they could also be used for other types of buildings provided the construction systems and dimensions of elements are not too different from those in dwellings.

This document also provides details for application to lightweight constructions (typically steel or wood framed lightweight elements as opposed to heavier masonry or concrete elements) and with the possibility of characterizing the impact sound performance of stairs (see Annex F).