ISO 10140-4:2021 (E)

Acoustics — Laboratory measurement of sound insulation of building elements — Part 4: Measurement procedures and requirements

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Measurement procedures and requirements

- 4.1 Frequency range
- 4.2 Measurement of sound pressure levels
- 4.2.1 General
- 4.2.2 Minimum separation distances for microphone positions
- 4.2.3 Averaging times
- 4.2.3.1 Fixed microphone positions
- 4.2.3.2 Continuously moving microphone
- 4.2.4 Energy average sound pressure level
- 4.2.4.1 Fixed microphone positions
- 4.2.4.2 Continuously moving microphone
- 4.3 Correction for background noise level
- 4.4 Measurement of airborne sound insulation
- 4.4.1 General
- 4.4.2 Measurements with fixed microphone positions
- 4.4.3 Measurements with a continuously moving microphone
- 4.5 Measurement of impact sound insulation
- 4.5.1 General
- 4.5.2 Measurements with fixed microphone positions
- 4.5.3 Continuously moving microphone
- 4.6 Measurement of reverberation time and evaluation of the equivalent sound absorption area
- 4.6.1 General
- 4.6.2 Measurement of reverberation time
- 4.6.2.1 General
- 4.6.2.2 Interrupted noise method
- 4.6.2.3 Integrated impulse response method
- 4.6.3 Equivalent sound absorption area
- 4.7 Measurement of structural reverberation time
- 4.8 Measurement of radiated sound power by surface velocity of elements

5 Sound insulation measurements

- 5.1 General
- 5.2 General procedure for the determination of airborne sound insulation
- 5.2.1 General
- 5.2.2 Fixed microphone positions and multiple loudspeakers operating simultaneously or a moving loudspeaker
- 5.2.3 Fixed microphone positions and a single loudspeaker operated at more than one position
- 5.2.4 Continuously moving microphone and multiple loudspeakers operating simultaneously or a moving loudspeaker
- 5.2.5 Continuously moving microphone and a single loudspeaker operated at more than one position

5.3 General procedure for the determination of impact sound insulation of floors
5.3.1 General
5.3.2 Fixed microphone position
5.3.3 Continuously moving microphone

Annex A (informative) Additional procedures for measurements at low frequencies

A.1 General
A.2 Minimum distances
A.3 Sampling of the sound field
A.4 Loudspeaker positions
A.5 Averaging time
A.6 Reverberation time

Page count: 12