

On-site tests

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General description

The Architectural Technology Laboratory of the AUTH has special equipment for the measurement of the sound insulation in the worksite and the determination of the sound reduction indicator R and of the level of impact sound L of structural elements, in accordance with the requirements of standards:

DIN EN ISO 140-4:1998-12 Akustik - Messung der Schalldämmung in Gebäuden und von Bauteilen - Teil 4: Messung der Luftschalldämmung zwischen Räumen in Gebäuden

DIN EN ISO 140-5:1998-12 Akustik - Messung der Schalldämmung in Gebäuden und von Bauteilen - Teil 5: Messung der Luftschalldämmung von Fassadenelementen und Fassaden an Gebäuden

DIN EN ISO 140-7:1998-12 Akustik - Messung der Schalldämmung in Gebäuden und von Bauteilen - Teil 7: Messung der Trittschalldämmung von Decken in Gebäuden

ISO 717-1:1996 Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation, International Organization for Standardization.

ISO 717-2:1996 Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact sound insulation, International Organization for Standardization.

For the realization of these tests it is essential to check the conditions that prevail in the worksite. During the test, the work might be required to stop or there might be the need for some special temporary constructions in order to meet the requirements of standards. The on-site tests of structural elements are not included in the accreditation field of the Laboratory.

The procedure of the test includes the installation of the sound sources and the measuring microphones and the realization of the test that is checked by a computer and lasts up to 4h.

The on-site tests of structural elements which are realised by the Laboratory concern particularly:

Airborne sound insulation of partitions $\hat{A} \hat{A} \hat{A} \hat{A} \hat{A}$

Airborne sound insulation of facades

Airborne sound insulation of windows

Airborne sound insulation of doors

Airborne sound insulation of floors

Level of impact sound on floors

Improvement of impact sound level on floors

The soundproofing of a vertical structural element (wall, frame) is determined by the sound insulation indicator of \hat{A} airborne sound $\hat{A} R_w$ in dB and of a horizontal structural element (ceiling) by the sound insulation indicator of airborne sound $\hat{A} R_w$ in dB and the level of impact sound $L_{n,w}$ in dB. All the tests which are materialised by the Laboratory are done on essays of natural size. Sound insulation testings are non-destructive tests.