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Sound Insulation in Construction – Building and Room Acoustics

A Product Information Sheet by the
Environmental Engineering and Civil Engineering Business Areas

Sound insulation in buildings plays an essential role for the health and wellbeing of the buildings' users. Sound from the outside (traffic, industry, environment) or from neighbouring flats or commercial property ultimately turns into noise when unwanted. Surveys have shown that residential property owners consider sound insulation to be one of the top priorities next to fire safety. It is a well-established fact that noise may not only be disturbing but ultimately lead to ill-health. Keeping noise out of homes and workplaces calls both for reliable planning and controlled construction measures in existing and new buildings. However, „dated“ standards, decisions by various courts (including the German Federal Supreme Court) and rising demands by users have created a number of grey areas which increasingly call for expert consultancy and support. Given this, rely for your building project on the professional support provided by TÜV SÜD's experts. We assist architects, planning offices and building developers in all aspects of sound insulation and the acoustic design of rooms.

Your benefits:

▶ **You gain legal certainty:**

The sound insulation target levels will be defined in both building specifications and contract, taking the applicable regulations into account.

▶ **You gain planning certainty:**

Our expert support from the planning of the property to its handover ensures compliance with the defined requirements.

▶ **You assure quality and save money:**

We recognise possible defects at an early stage and thus help you avoid expensive reworking. Upon request, we document the sound-insulation quality at the time of building handover.

TÜV SÜD is a VMPA (German Association of Materials Testing Institutions)-recognised testing and inspection body for sound insulation as per DIN 4109 and authorised to carry out sound and vibration measurements under Art. 26 of the Federal Air Pollution Control Act.

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Qualified Support From the Outset: TÜV SÜD.

The civil engineering and environmental engineering experts at TÜV SÜD provide interdisciplinary assistance in all issues related to sound insulation, building and room acoustics. Using ultramodern instruments, initial measurements that give us a rough idea of sound insulation can already be taken after completion of the airtight building shell.

Our services:

Support during the planning of new buildings or the modernisation of existing ones:

- Advice on how to optimise layout under sound insulation aspects
- Consultancy during the preparation of building specifications
- Design of customised building and room acoustic schemes (residential, commercial and industrial buildings)
- Consultancy and development of „special“ sound insulation strategies for rooms where confidentiality and privacy are important (doctor's surgeries, conference rooms, etc.)
- Development of customised solutions and sample components, taking into account the estimation model for flanking transmission of EN 12354

Measurement of building acoustics:

- Airborne sound insulation of ceilings, walls, façades, windows and doors
- Sound impact insulation of ceilings, staircases and other building elements
- Sounds emitted by sanitary installations in buildings
- Transmission of airborne and structure-borne sound from building services installations (lifts, HVAC systems, etc.)

Measurements of room acoustics:

- Measurement of the acoustic performance of schools, lecture and conference rooms
- Measurement of other parameters of room acoustics

Evaluation:

- Preparation of expert reports on acoustics
- Evaluation of measurement results on the basis of the currently applicable standards, the general rules of technology and applicable laws
- Quality assurance during construction to identify defects, if any, including an estimate of the costs involved

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