LABE
European Building Acoustics Laboratory for construction, industry and transportation

More than 2500 tests carried out each year
Independent and ISO 17025 accredited
12 tests rigs across 3000 m²

www.cstb.fr
TESTING PRODUCTS FOR CONSTRUCTION, INDUSTRY AND TRANSPORTATION, INCLUDING THE HIGHEST PERFORMING PRODUCTS, AS QUICKLY AS POSSIBLE AND ACCORDING TO EUROPEAN, INTERNATIONAL AND AMERICAN (ASTM) STANDARDS.

A major asset for manufacturers who want to use their test reports all around the world. **Users comfort, overall building performance, compliance with regulatory constraints:** to meet these requirements, one needs to know the acoustic characteristics of all components of a building. The European Building Acoustics Laboratory (LABE) can carry out all necessary performance measurements of these elements, regardless of their final use: integration into a building, a means of transport or as part of an urban infrastructure. LABE is also the right place to develop new concepts using innovative approaches, such as **mixed tests and numerical simulations** to improve the understanding of involved acoustic phenomena, so that you can truly optimize the performance of innovative systems.

**TEST THE ACOUSTIC PROPERTIES OF YOUR PRODUCTS**

- **ACOUSTIC INSULATION**
  Measurement of the ability of an element to reduce the transmission of airborne noise, direct noise (window, partition, floor...) or flanking noise (ceiling, floor, facade...): urban noise, shouting, conversations, singing, or noise emitted by television, loudspeakers...

- **SOUND ABSORPTION COEFFICIENT**
  Measurement of the ability of an element to reduce the sound reverberation in a room. This information is required for most of building elements but also road barriers, seats of auditorium...

- **IMPACT NOISE LEVEL**
  Measurement of the contribution of a floor to reduce impact noise (typically generated when someone walks or children play on it). Floor coverings or floating screeds placed on a floor can also be tested.

- **RAINFALL NOISE LEVEL**
  Measurement of impact noise level caused by rain falling on roofing elements of a building (veranda panels, roofs, roof windows, outlets, skylights ...) or an automobile (windshield).

- **INSERTION LOSS**
  Measurement of the capability of an element to reduce noise generated by exhaust ducts, pipelines or other pipes.

- **SOUND POWER LEVEL**
  Measurement of noise levels emitted by aeraulic and hydraulic equipment.

- **AIRBORNE AND STRUCTURAL NOISE LEVEL**
  Measurement of noise level generated by waste water pipes systems, or any other equipment generating both airborne and structural noise (whirlpool bathtub, compressor...).

**TRANSPORTATION APPLICATIONS**

- **AUTOMOBILE**
  The CSTB tests the acoustic transparency of many components: car floors, body sides, hatchbacks, aprons, windshields.

- **RAILWAY**
  Doors, pavilions, floors, windshields and train windows are tested with adapted methods.

- **SHIPBUILDING**
  Typical tests in this area concern bulkheads, decks and ship doors.

- **AERONAUTICS**
  For aeronautical elements, our service includes airborne and impact sound insulation, absorption and intensimetry measurements.
HALF OR FULL DAY RENTAL
This solution, suitable for product development or product range validation, has an excellent value for money. About fifty configurations of roller shutter boxes, twenty suspended ceilings or sixteen windows configurations can be tested in a single day and for the same rental rate.

ONE-OFF TESTS
The most appropriate offer for all products whose mounting does not allow to carry out many tests per day: performance measurement for a specific project or characterization of a single product.

COMPLETE PRODUCT TESTING
A tailored-rate service, including measurements of several acoustic properties, is proposed to help manufacturers to fully characterize their product. For example, a floating screed can be evaluated with respect to impact noise, but also airborne noise. In addition to the standard tests, LABE offers specific tests for finer characterization: intensimetry, vibroacoustic measurements ...

CONTINUOUS RESEARCH, IMPROVEMENT AND OPTIMIZATION.
> Realization of tests starting at 50 Hz, under ISO 17025 accreditation
> Extremely short measurement time (divided by 6 to 10), which allows to test up to twenty ceilings per day, lowering the unit cost of the test below 400 euros, including test report.
> Development of new tests: measurement of pipe radiated noise, with or without insulation (combined with cutting-edge simulation tools), façade flanking insulation, linear insulation of joints.

THE ASSETS OF THE LABE
CUTTING-EDGE
Thanks to an innovative support frame system independent of the test station, the LABE can carry out most tests in less than 4 weeks..

CUSTOMIZED
The optimal «Emission room – Reception room» coupling is ensured by an original system using two fixed rooms and a mobile room. This technique allows to test up to sixteen windows and / or patio doors-windows per day. During the test, the product · horizontal or vertical · is mounted inside the mobile frame under real conditions. It is then placed between the mobile emission room and the fixed reception room. Three test stations of this type operate simultaneously, fully computer-controlled.

TAILOR-MADE AND EFFICIENT
• A team of experienced technicians
• 50 permanently available mobile frames adapted to each type of product
• A 15-ton travelling crane

INDEPENDENT AND REPUTABLE
Confidentiality is paramount for us: we make sure tested products are safely and securely stored, from arrival until departure, regardless of how long they stay in the laboratory. The test report is established within eight weeks at most after the tests. This period may be reduced to two weeks under certain conditions. It is provided in electronic form and can be translated into different languages. Third party and ISO 17025 accredited, LABE delivers test reports which are renowned internationally and have the highest level of acceptance in the French construction industry.
RESEARCH & CONSULTING

PRODUCT DESIGN AND DEVELOPMENT
You can benefit from the support of the Research & Consulting team of CSTB’s Acoustics Division for the design and improvement of your products.

DIGITAL AND EXPERIMENTAL COMPLEMENTARITY

AcouBAT
Prediction of building acoustic performance

ADDED BENEFIT
Publicize your products for free in the AcouBAT database

AcouSYS
Prediction of multilayer systems acoustic performance

ADDED BENEFIT
Evaluate complete ranges of your products at a lower cost thanks to a robust hybrid approach

UNIQUE MULTIDISCIPLINARY APPROACH TO CHARACTERIZE YOUR PRODUCTS IN THEIR GLOBALITY

Moreover, in a multidisciplinary approach, test campaigns can be coordinated in several CSTB laboratories (acoustics, fire, mechanics...) at particularly attractive rate.

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