



**Riverbank** Acoustical  
LABORATORIES®

We provide thorough, independent testing of building materials and consumer products.

# RIVERBANK ACOUSTICAL LABORATORIES

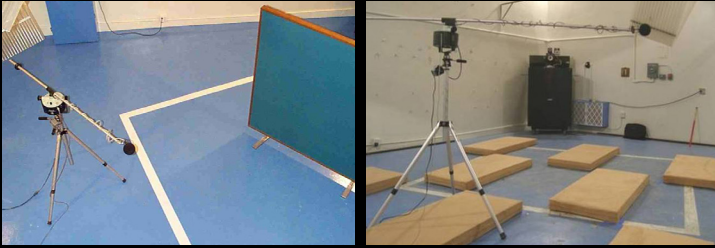
Founded in 1918 by Wallace Clement Sabine, Riverbank Acoustical Laboratories® (RAL) is recognized worldwide as a source of valid acoustical data in numerous commercial, civilian, and military specifications. Our acoustical engineers support clients with independent, accurate testing of building materials and consumer products, providing both the data and the expertise to identify solutions that give a measurable advantage to meet or exceed industry standards.

With a staff of experts and advanced equipment, including five reverberation chambers as well as a fully equipped machine and tool shop, our team provides certified testing and analysis for sound transmission, absorption, and power for all kinds

of building materials and consumer items, ranging from wall systems, floor/ceiling assemblies, and smoke alarms, to ship bulkheads. We also develop solutions for equipment vibration isolation, noise abatement, and sound source identification.

The principal tests performed in the reverberation chambers involve sound absorption, sound transmission loss, impact sound transmission, sound power, sound pressure, and dB(A) measurements— all of which are monitored in a central control room. Whether NRC tests, E90 testing, STC tests, or other acoustical testing, we provide clients with printouts, including both data and graphical presentations, immediately following the completion of each test for a record of performance.





All test data is considered proprietary and treated with the highest confidentiality.

## OUR FACILITIES

Our laboratory staff has more than 50 years of combined experience in acoustical testing and noise control technologies. We leverage that experience in RAL's sophisticated testing environments.

### TEST ROOM #0

One of the first of its kind in the world, Room 0 is a highly reverberant sound chamber with a volume of 292 cubic meters. This room is isolated within a second room that is located inside the main building. Both the test chamber and second room have 45 cm thick walls and 68 cm thick ceilings.

Because of stringent temperature and humidity requirements designated by certain acoustical test standards, Room 0 is controlled within 1°C and 2 percent relative humidity for each test. The chamber has the necessary fixed and rotating diffusers to randomize the sound field. Room 0 is primarily used for sound absorption, sound power, sound pressure, and dB(A) type measurements. Adjacent to Room 0 is a temperature-controlled work and curing area where specimens can be prepared before testing.

### TEST ROOMS #1-4

Each of these temperature and humidity-controlled test chambers contain 50 cm thick walls consisting of two separated columns of high density solid concrete blocks. Thus, after a test specimen is installed between Rooms 1 and 2 or Rooms 3 and 4, there are four block walls totaling 100 cm of mass and separating airspaces to avoid sound escaping into the adjacent room by other routes (flanking paths).

To achieve high ratings on various test assemblies, double-metal flanking shields have been installed to provide additional

isolation. The laboratory walls, poured concrete floors, and pre-stressed, reinforced concrete ceilings contain the appropriate isolation and flanking path eliminators required for sound transmission and sound impact tests. Fixed and rotating diffusers are in place to provide a randomized sound field to satisfy precision requirements.

## PROVEN QUALITY

RAL maintains current accreditation through the National Voluntary Laboratory Accreditation Program (NVLAP) and is regularly audited by NIST representatives to assure conformity to ISO 17025. We maintain an extensive Quality Management System (QMS), in strict conformance to the requirements of ISO 17025:2017. The QMS includes our Quality Manual, business policies, General Operating Procedures (management procedures), Standard Operating Procedures (test methods), root cause analysis reports for non-conformities, and other critical records.

RAL also maintains scheduled testing of standard reference specimens and keeps current control charts for each of our accredited test standards. These control charts give us confidence in the statistical certainty of our test results across the frequency range and throughout time. In addition, RAL is accredited by the Underwriters Laboratories (UL) Data Acceptance Program and the City of Los Angeles Department of Building & Safety.

Customers across industry turn to Riverbank Acoustical Laboratories when they need assurance that their products meet or exceed industry standards for accurate testing in leading-edge facilities.