ISVR Consulting
Consultants in Noise and Vibration

A brief guide to the ISVR Acoustic Test Laboratories

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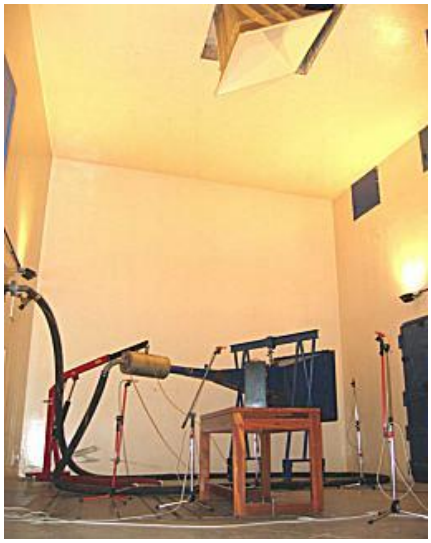
This is a brief guide to the ISVR acoustic test facilities. It gives a brief outline of the capabilities of the facilities and gives pictorial guidance on access, to assist clients wishing to test large pieces of equipment.

The Rayleigh Laboratories, which are operated by the ISVR Consulting, has two reverberation chambers, a large anechoic chamber and a progressive wave tube. The laboratories are well served with comprehensive control and preparation areas. A wide range of modern, highly specialised instrumentation is available. Single and three phase electrical supplies are available, as is compressed air. Mechanical workshop and handling facilities are available within the department.

The facilities are used for: High–intensity noise testing; sound power determination of sound sources, using either the reverberation room or the anechoic chamber; sound reduction index determination of panels; sound absorption testing of porous materials. These tests are carried out according to National and International Standards. Bespoke testing is also carried out to the client's defined specifications.



High intensity testing in the reverberation room can achieve overall sound pressure levels of 160 dB. Sound levels in excess of 170 dB can be achieved in a progressive wave tube in which panels are excited by grazing incidence sound.

Facility Parameters

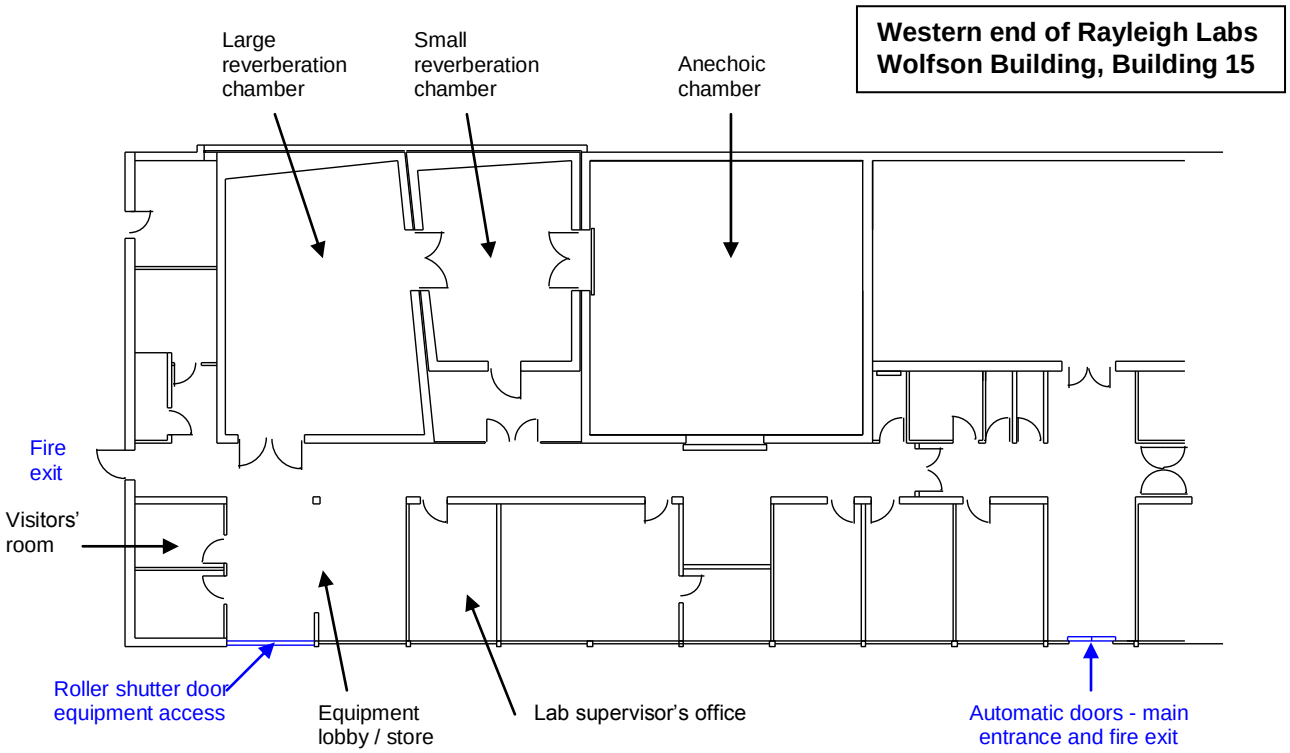
The room dimensions are as follows:

Anechoic chamber (inside wedges)	7.3 m by 7.3 m by 5.1 m; Volume 271 m^3
Large reverberation room	9.15 m by 6.1 m by 6,25 m high; Volume 348 m^3
Small reverberation room	6.4 m by 4.6 m by 4.3 m high; Volume 131 m^3

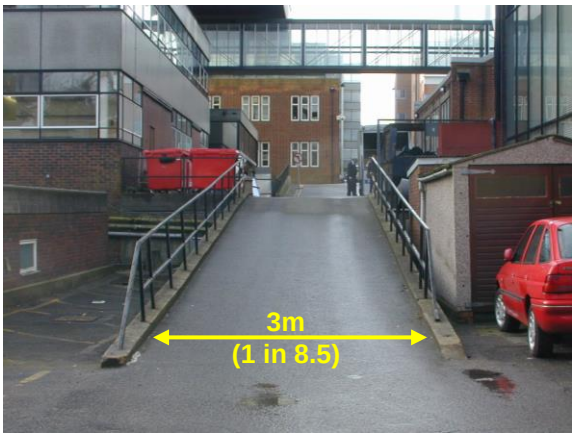
Facility Notes

- Access to the facility is by road on smooth tarmac. Area immediately outside the facility is a car park, which can be cleared if necessary.
- Main doorway to facility: 2.48 m x 2.74 m (width x height).
- Large reverberation room door dimensions: 1.98 m x 2.42 m (width x height).
- Forklift truck with 2500 kg lifting capability.
- Other lifting equipment includes pallet trucks and hoist (SWL 2 tonne) in the ceilings of the large reverberation room and the anechoic chamber.
- Aperture size between reverberation rooms: 2.02m x 2.42 (width x height).
- All the test rooms and chambers have internal forced ventilation.
- The anechoic chamber floor has a removable grid floor above the wedges. This grid floor is at the same level as the floors outside the chamber. The grating is capable of supporting a spread load of several tonnes. Sections of the grid, or all of the grating, can be removed if necessary.
- Cable access to all chambers is through apertures 150 mm by 150 mm, which can be sealed with plates.

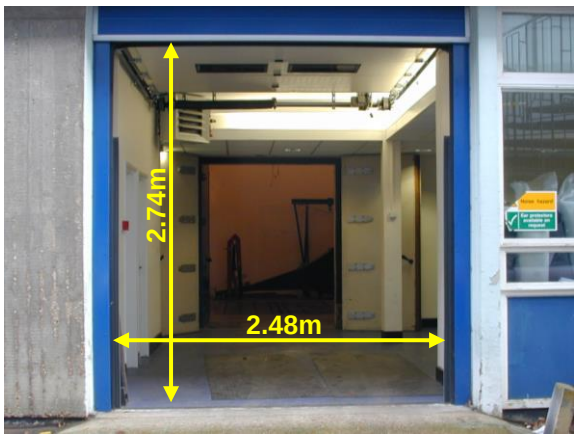
Plan of the Laboratories

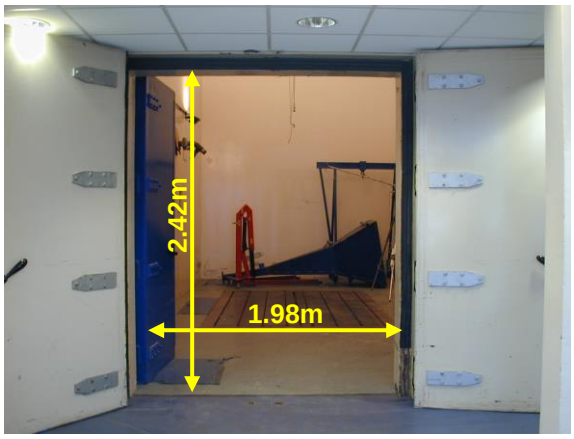


Approach to Laboratories



Entrance Doors to Laboratory and to the Large Reverberation Room





Entrance to the Anechoic Chamber