

Acoustic Laboratory

● Outline of laboratory

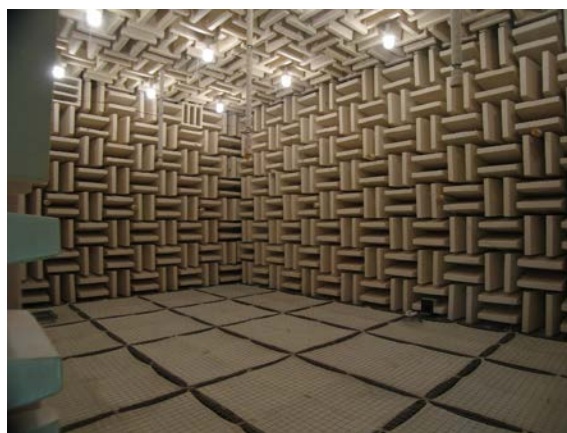
This laboratory equips two types of rooms with each acoustical feature, and a floor impact sound facility. One type is an anechoic room which realizes pure silence, and the other is reverberation room which makes acoustical energy flat inside the room letting the sound diffused. Other than these, there are measurement preparation room and acoustic analysis room.

This acoustic analysis room equips basic devices for testing the sound insulation prescribed in Japanese Industrial Standards, such as device for acoustic penetration loss measurement and device for field measurement of sound insulation, and also equips new analysis device such as Pu-sensor.

Utilizing these acoustical rooms and measurement devices, we are conducting researches and studies related to sound insulation in buildings and acoustical standards.

■ **Anechoic room**

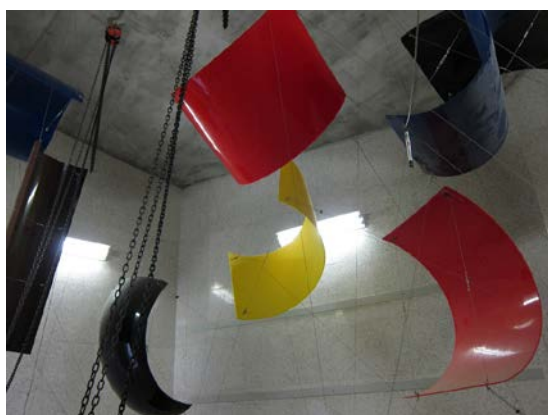
To make sound unreflect inside this room, all the walls are covered by wedge-form glass wool for furnishing. No reflected sound means that it's equal to a part of the limitless space in the sky. Therefore, this room is used for the measurement of sound power level of building equipment.



Interior of anechoic room

■ Reverberation room

On the contrary, to make sound reflects diffusible, the irregular-shaped room is covered by a reflecting smooth wall. All the walls are covered by a firm smooth surface. Such a sound field space is called a diffused sound field. The diffusers are hung so that the diffusibility is not spoiled by samples of sound-absorbing materials in the room. There are four rooms in total, these rooms are used for measurements of sound absorption coefficient, airborne sound insulation of wall and floor impact sound insulation of timber floor.



Left: Interior of reverberation room (diffusers)

Right: Interior of reverberation room - experiment of timber floor

■ Facility to floor impact sound

This facility, which is defined in Japanese Industrial Standards JIS A 1440-1 and JIS A 1440-2, is made of box frame type reinforced concrete construction. The facility is used of the measurement of the reduction of transmitted impact sound by floor coverings for revision of Japan Housing Performance Indication Standards.



Exterior of the facility



Interior of the facility