



Reverberation room

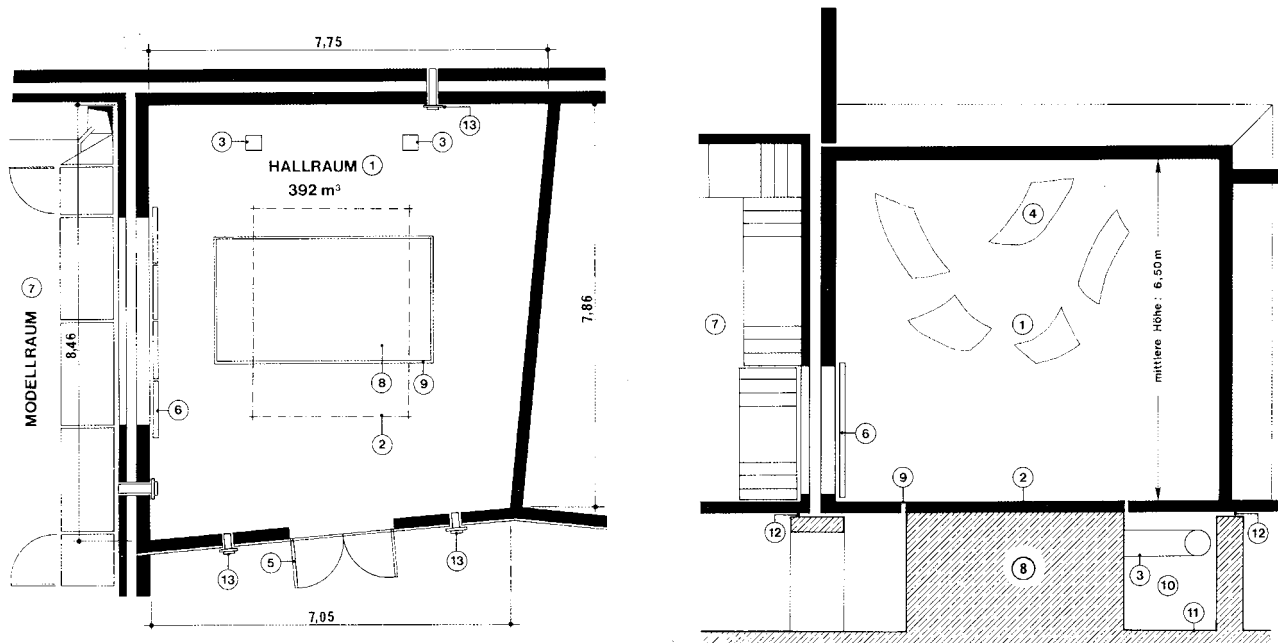
to determine the
sound absorption coefficient
and the sound power level

Technical Data

Reverberation room P20

Volume:		392.0 m ³
Surface:		322.3 m ²
Width:		7.05 to 7.75 m
Length:		7.86 to 8.46 m
Height:		5.92 to 7.08 m
Angle between opposite walls		ca. 5°
Inclination of ceiling:		ca. 8°
Entrance door:		1.9 m x 2.4 m
Sliding-door to the semi-anechoic chamber:		3.8 m x 2.35 m
Separated pedestal	surface:	2.45 m x 4.25 m = 10.4 m ²
	depth:	2.2 m
	volume:	23 m ³
10 diffusors		1.60 m x 1.25 m
5 diffusors		1.25 m x 1.25 m
total one-side surface of the diffusors		27.8 m ²

The reverberation room of the testing center accredited according to DIN EN ISO/IEC 17 025 complies with the requirements of standard DIN EN 20 354.



1 Reverberation Room	4 Diffusors	7 Semi-Anechoic Chamber	10 Cellar	13 Lockable Openings
2 Test Surface	5 Doors	8 Pedestal	11 Soil	
3 Air-Conditioning	6 Sliding Doors	9 Joint	12 Steel Springs	

An adjustable air-conditioning system allows the calibration of temperatures, which are different from the temperature of the laboratory environment to a certain degree. It is also possible to influence humidity. This is important for specimens, which change the moisture content of the reverberation room, for example planted noise barriers.

The reverberation room has a square ground plan with one angle, which is not rectangular, and a ground area of approx. 60 m², leaving enough space in the middle of the laboratory for an approx. 15 m² rectangular area for testing. Fifteen slightly bent and vibration-damped bonded blanks are hanging down from the inclined ceiling as diffusors, which are evenly distributed in the room with the exception of a height of 2 m from the floor kept free for working. The doors are also vibration-damped and absorb sound to a high degree.

A lockable opening with sound-insulated sliding-doors is the connection to the adjacent semi-anechoic chamber. Test objects can be mounted into this opening to determine the behavior in case of directed incidence of sound on one side and a diffuse field on the other side (for example façades or external walls).

A massive pedestal with a surface area of 4.2 m x 2.5 m and a depth of 2.2 m is located in the center of the reverberation room floor. This concrete pedestal is separated from the surrounding floor by a circular joint, sealed with an elastic sealant, is running through the cellar below the reverberation chamber and based on the soil. If the sound power of an object is to be determined, which is placed on the pedestal, the structure-borne sound excitation of the walls is avoided due to the separated foundation. The sound, measured in the reverberation room, is radiated only by the respective object.

The reverberation room is as soundproofed as possible towards the adjacent rooms and has a bearing of steel springs. Numerous cable joints to the anteroom facilitate the measuring set-up. For the determination of the sound power of machines, lockable openings in the walls allow the supply of feeders and service pipes as well as the deduction of exhaust fumes if necessary.