

Test report

Schmidlin OMNIA assembly system (SIA 181)

Sound measurement according to standard SIA 181

Test environment:

Wilhelm Schmidlin AG Engineering Laboratory, Oberarth
Concrete floor, 24 cm

Transmission room: Front of the second floor

Test room: Front of the first floor (1.2) – vertically directly below the transmission room

Measuring instruments:

Norsonic 140

Class 1

Calibration 259-19875 (Publisher: Swiss Federal Institute of Metrology METAS)

EMPA Pendulum hammer

Test object:

Schmidlin OMNIA assembly system (SIA 181) installed with Schmidlin VIVA shower area.

Assembly type:

A Schmidlin VIVA shower area was assembled on unfinished flooring on the second floor in accordance with the assembly instructions.

montiert. The measurements according to SIA 181 are taken in the basement. The floor thickness in the laboratory is 24 cm of concrete.

Measurements were taken with a calibrated class 1 measuring device (type: Norsonic 140.)

Requirements according to standard SIA 181:2020:

According to Table 7 of the standard SIA 181:2020, a shower base causes what is known as a "single noise" when used in the transmission room, which falls under the category of "usage noise."

According to Table 6 of the standard SIA 181:2020, the limit value for a room with medium noise sensitivity (bedroom, living room) is **34 dB** for **increased requirements** (for condominiums) and **39 dB** for a room with low noise sensitivity (bathroom, toilet, kitchen.)

The limit value for a room with medium noise sensitivity (bedroom, living room) is **38 dB** for **minimum requirements** (rented apartments) and **43 dB** for a room with low noise sensitivity (bathroom, toilet, kitchen.)

Test performance:



Fig. 1: Assembly condition in the stimulus room



Fig. 2: EMPA pendulum drop hammer



Fig. 3: Measuring set-up in the basement – vertically below measuring room 1.2

Measurement results:

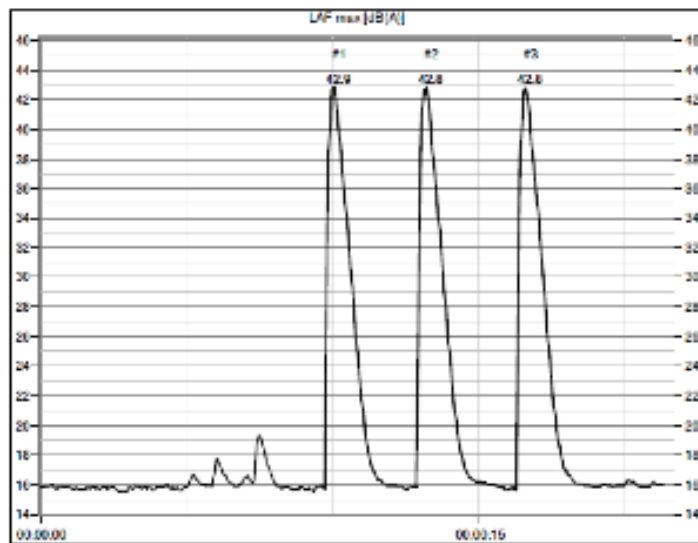


Fig. 4: Measurement result

Measurement result:

The mean LAF value of the measurements is 42.9 dB(A.)

Absorption correction K1: -2 dB(A) (non-absorbent, unfurnished room)

Level correction K4: -12 dB(A)

Volume correction Cv: 0 dB(A) (< 200m³)

Measurement result LHTot: 28.9 dB(A)

Requirements:

Requirements according to SIA 181:2020 for a room with medium noise sensitivity (bedroom, living room):

Minimum requirements (LHMin): 38 dB(A)

Increased requirements (LHincreased): 34 dB(A)

Requirements according to SIA 181:2020 for a room with low noise sensitivity (bathroom, toilet, kitchen):

Minimum requirements (LHMin): 43 dB(A)

Increased requirements (LHincreased): 38 dB(A)

Conclusion:

With an average value of 28.9 dB(A), the VIVA shower area with the OMINA assembly system meets the increased requirements in accordance with SIA 181:2020 with a raw concrete thickness of 24 cm for a room with medium room sensitivity (bedroom, living room) located vertically below the bathroom.

According to empirical data, the **increased requirements** according to SIA 181:2020 for a room **with medium room sensitivity** (bedroom, living room) located vertically below the bathroom from a **raw concrete ceiling of 17 cm** are fulfilled (34 dB), the **minimum requirements** are theoretically from a **raw concrete ceiling of 12 cm** (38 dB.)

Place, date:

Oberarth, February 20, 2024