

## Building a High End Listening Room 2: Construction

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The second step towards our new high end listening space is behind us.



### Ideal Ratios

With modal frequencies in the back of our mind, we extended the original 5,5 x 5,6 x 2,6 m space to an ideal 5,45 x 8,7 x 2,6 m, removing the original partition and building a new one.

The building skeleton is reinforced concrete, the ceiling and floor concrete—ideal. Construction materials that are susceptible to vibrations (such as plasterboard or glass) vibrate on certain frequencies and from the point of view of acoustics act similarly—as an unwanted mechanical resonator. Our goal is a clear and sound-wise the best space, which is why we wall up the niches between the supporting pillars and the windows. Ventilation will be provided by an automatic heat recovery ventilation unit.



### Separate Wiring

We lay down a new supply leading from the main switchboard using a 5×4 copper conductor. We choose fuses as the securing elements of the individual circuits. We have all three phases coming to our switchboard, so in the future, we are going to be able to choose the one with the least interference to power the audio systems and connect devices with higher electromagnetic emissions, such as LED lighting circuits, to another phase.



### Grounding

In order to found out the resistivity of the soil behind the building, we used two earthing rods as probes (1 m in the ground, 9 m far). The resistance between them is 75 Ω, which translates to a very good soil resistivity of 8,3 Ωm. In order to verify the accuracy of the measurement, we put the probe into the depth of 1,5 m and measure 52 Ω, which confirm the initial result. Behind the building, we put down two separate main grounding points, one for each audio system. According to the calculations, we should reach an outstanding grounding resistivity under one ohm with only eleven grounding rods.



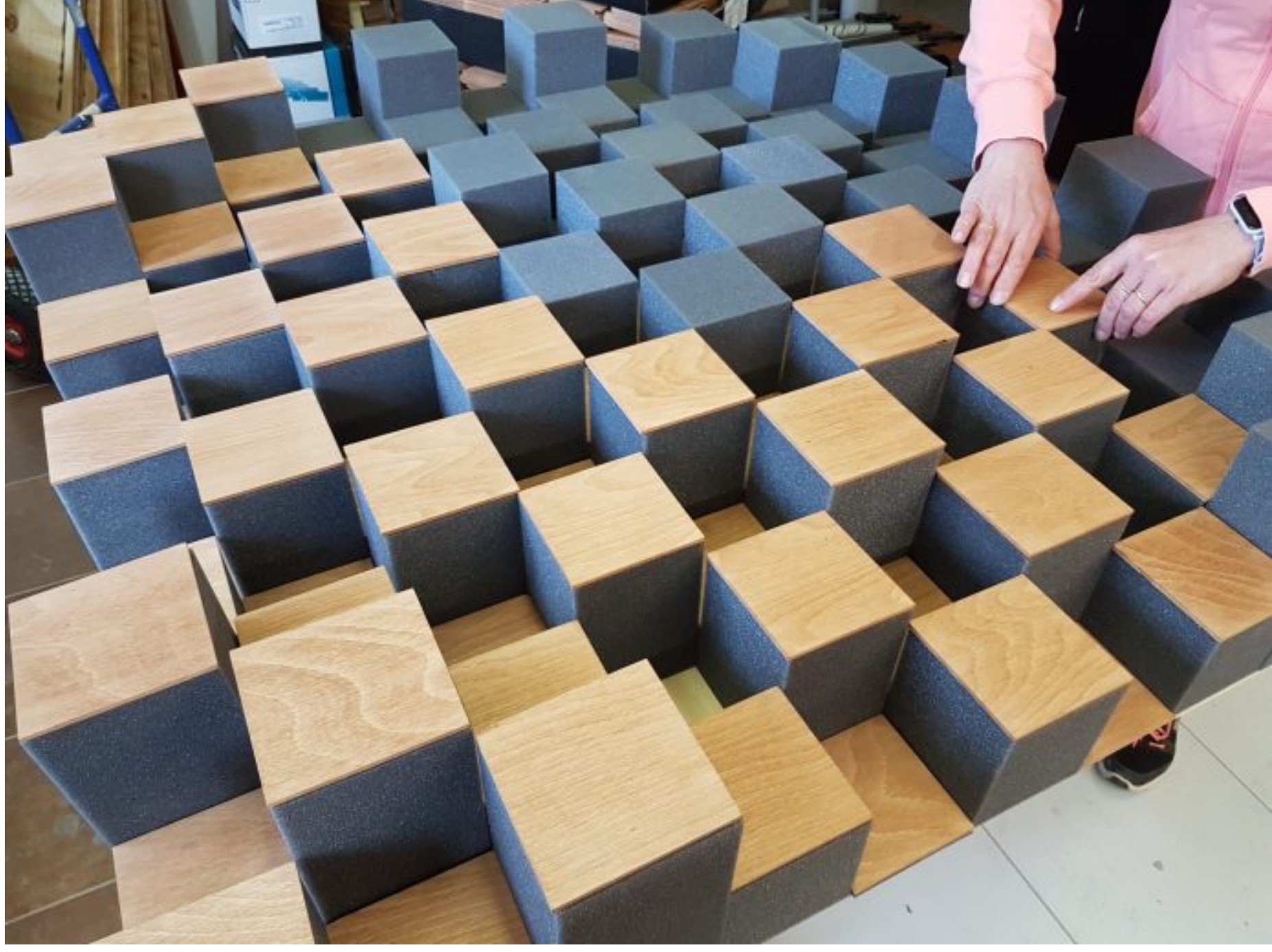
### Construction Works Finish

What comes is leveling of the new floor, plastering, laying down the carpet inside and heavy-use grade linoleum in the hall...



### Acoustics

As the construction progresses, we prepare the acoustic elements for the room. The next article is going to focus on those.



Audio Blog

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