



Case Study



Property Owner

Saints & Stars



Main Contractor

I.D. Bouw en Advies



Acoustic Consultant

Het GeluidBuro



Local Partner (Supplier & Installer)

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Stravigym XP

- “Extreme Performance” discrete floating floor
- Build-up height ± 145 mm (excluding floor covering)
- Suitable for commercial gyms (impact energy from 200 to 1000 N.m)

OVERVIEW

Saints & Stars is a gym chain redefining our perception of a gym with a luxurious atmosphere and night inspired studios, a place where energy, fun and like-mindedness come together.

Saints & Stars is the next level fitness experience that refuses to cut corners when it comes to quality, atmosphere and vibe. Inspired by boxing and bootcamps, Saints & Stars offers two contagious HIIT workouts: Holy Box and Holy Shred, as well as Personal Training.

Saints & Stars Amsterdam is located on the ground floor of a former police station on Constantijn Huygensstraat 41 in Amsterdam. On the floors above the gym there are several residential housing units.

Due the high levels of both impact and airborne noise generated by the different gym activities, neighbours started complaining about excessive noise, which resulted in an official report stating that such high-impact gym activities were inappropriate within the framework of the zoning plan.



PROBLEM

The gym is open 7 days per week, from 06.30 am until 09.30 pm, making proper noise and vibration isolation even more important.

The gym has three main areas where the noise sources are located: two group class rooms and one personal training area. In all of these areas music is playing and instructors are using microphones to motivate the participants, adding to the noise levels.

The room where Holy Shred workshops are taking place can accommodate up to 40 participants. Of these participants, 20 can run simultaneously on the treadmills and do 20 simultaneous exercises with their own body weight.

Holy Shred workshop is a contagious 50-minute rough and tumble, combining custom Woodway treadmills to burn off calories and individualized work stations to build up muscle mass.

The room in which Holy Box workshops are taking place can accommodate up to 40 participants as well, 20 people at the boxing bags and 20 gym members at the training benches. If there are more than 20 participants, a rotation system is put in place allowing gym goers to use both the punching balls and training benches for a complete workout.

AT A GLANCE

CHALLENGES

- Solving the acoustical problem related to music but mainly, due to the different impacts in the floor caused by the various gym activities on the areas described above. A lot of people moving and jumping in sync, running on treadmills and lifting and dropping weights are only some of the activities that generate clanking sounds and dull thuds audible in adjacent rooms.
- The need for a quick and easy intervention so that the gym only had to close for a few days, not to compromise the relation with their club members.
- Not adding too much extra weight to the existing structure (an old building constructed in 1993).
- To find an acoustical system with a "stiff" impact absorption layer that offers both use of comfort and is compatible with different use & live load conditions imposed in the gym and low energy restitution. To have low vertical deformation and low residual indentation was a must due the desire to have Pulastic GT100 as a floor covering (a high-performance synthetic seamless floor).





SOLUTION

A **Stravigym XP** system with **dBooster®** technology using **GympactLayer-15** as an impact absorption layer was installed under the **Pulastic GT100** final floor by our local partner **Delta-L**.

Stravigym XP is a discrete gym floating floor system with an acoustical "Extra Performance". Thanks to the use of **dBooster®** technology, the system's performance is not too dependent of impact energy.

Stravigym XP is also a lightweight solution, easy and quick to install, with high noise reduction (particularly at low frequencies) and compatible with different gym activities as well as with the desired floor covering due the use of **dBooster®** technology in combination with **GympactLayer-15**, a thin but high performing impact absorption layer with very low vertical deformation and residual indentation.

Measurements were done considering the most usual activities per area and with a large number of participants.

RESULTS

- In the Holy Box room, at the end of the training session, the participants dropped 5 to 7.5 kg bumper plates from a height of 30 cm.
- After the installation of the Stravigym XP floating floor, only a couple of times a faint noise was audible in some of the adjacent rooms when gym members were constantly running on the treadmills. The A-weighted, fast time-constant, maximum, sound level (L_{AFmax}) measured was between 25-28 dB(A) - significantly lower than the peak noise level defined by local standards for nighttime (applicable to classes before 7:00 am) - 45 dB(A).
- The music and the trainer's voice (using a microphone) and participants running on the treadmill in the Holy Shred room were not audible in the bedroom where the measurements took place.

**Pulastic
GT100**
Floor Covering

122 m²
Stravigym XP
with **dBooster®**
technology

