



Case Study



Property Owner

Clinica Girona



Main Contractor

UTE Rubau-Agefre



Structural Engineer

BIS Structures



Architect

PMMT Arquitectura



Acoustic Consultant

AV Enginers

OVERVIEW

The Catalonian hospital group Grup Clinica Girona has started construction of their newest hospital building in Girona, Spain. The state-of-the-art medical center is expected to open in the first half of 2022 and will expand the capacity of the current clinic from 13,000 m² to 41,000 m².

The hospital will house several diagnostic centers, surgery rooms, a rehabilitation center, an oncology wing and much more, making it the largest and most complete medical facility in Catalonia.

Because of its proximity to the railway tracks and subway lines, CDM Stravitec engineers were asked to come up with a solution to protect both patients, staff and medical equipment from structure and airborne noise.

Stravibase SpringBox, Stravifloor Jackup-R

- Pre-compressed spring bearings for structural isolation of buildings and structures (Stravibase SpringBox)
- Limits deflection of the building during construction (Stravibase SpringBox)
- Jack-up floating floor system with reinforced steel boxes cast into concrete (Stravifloor Jackup-R)



AT A GLANCE

CHALLENGES

- Strict quality standards
- Sensitive medical equipment
- Various sources of noise and the need for complete silence to guarantee the patients' comfort

BENEFITS

- Stravifloor Jackup-R make use of cast housing element that can be opened after installation, allowing the customer to inspect, adjust, and replace the spring or elastomeric isolators in case the load conditions would change.
- Allows for larger spans and fewer support points than traditional jack-up systems

647 m²

Stravifloor
Jackup-R

600 pcs

Stravibase
SpringBox

SOLUTION

An impressive number of pre-compressed **Stravibase SpringBox** bearings are installed on top of the load bearing columns, isolating the building structure and thus preventing unwanted noise and vibrations from the nearby high-speed railway from creating an acoustical problem inside the hospital and protecting the sensitive medical equipment. In total, 600 Stravibase SpringBox bearings acoustically decouple the substructure from the superstructure.

Most underground areas didn't need to be acoustically isolated and so, it proved to be more efficient to opt for acoustic floating floors in those sensitive underground areas that did require special attention, rather than adapting the whole building design in order to bring Stravibase SpringBox isolation to the -1 level.

647 m² of **Stravifloor Jackup-R** floating floors, using 4.5Hz springs as resilient support and a 150 mm-thick concrete slab were installed in the hemodialysis and nuclear medicine wards located on the -1 level of the hospital.

As it is a unit where patients often spend many hours undergoing chronic therapy, it was of paramount importance to ensure patient comfort through optimal acoustics. The nuclear medicine ward on the other hand, had to be acoustically isolated to protect the sensitive medical equipment located here.

