

Les Docks de Saint-Ouen

Saint-Ouen, FR



Case Study



Property Owner

SCCV Saint Ouen V2 V3 – Emerige



Main Contractor

BATEG - VINCI Construction



Architect

DGM & Associes



Acoustic Consultant

Acoustique & Conseil



Structural Engineer

Khephern Ingenierie

OVERVIEW

The docks of Saint-Ouen are an old industrial complex developed around a port basin connected to the Seine river in the French town of Saint-Ouen-sur-Seine. Today, 'Les Docks de Saint-Ouen' refers to the 100 hectares eco-neighbourhood being developed on the same site. Once completed, the Docks neighbourhood with its vast public spaces and extensive planting will offer housing to 10,000 people and is expected to create the same amount of jobs.

As part of the larger redevelopment scheme, two new commercial buildings offering various services such as office spaces, auditoriums, showrooms and gyms, are being erected in the Docks ZAC business area.

Stravibase Spring

- Spring bearings for structural isolation of buildings and structures
- Easily adapted to meet different loads and performance requirements
- Consists of double nested springs with a top and bottom cover plate and antislip layer

3.5Hz
Natural Frequency

973 228
kN
Total Load



AT A GLANCE

CHALLENGES

- Ground-borne noise from metro line running underneath the buildings
- Spring bearings have to be replaceable in case of failure due to unforeseen events. Empty spaces between the bearings were created in case they have to be replaced using a jack
- Designed specific springs assembled under panels for the insulation of stairwells

BENEFITS

- Double nested structural spring bearings (73.6 kN + 18.5 kN)
- Reduced structural impact compared to spring boxes with the same performance

SOLUTION

Because of line 13 of the Paris metro running underneath the two future buildings, the acoustical consultant advised to have them acoustically decoupled from the substructure by means of [Stravibase Spring](#) bearings.

The double nested structural spring bearings are designed to cope with a deflection variation during construction and deliver the required natural frequency of 3.5Hz, thereby guaranteeing proper noise and vibration isolation.

Given that the building stands on the banks of the Seine river, the risk of occasional flooding exists. The rise in water levels would put great pressure on the outer walls. To limit the horizontal displacement of the retaining pre-compressed horizontal [Stravibase SpringBox](#) bearings were installed as well.

