



Case Study



Property Owner
ED Promotion



Main Contractor
CIMEO Construction



Acoustic Consultant
AVLS



Architect
Jérôme POULAIN



Structural Engineer
ARES CONCEPT

OVERVIEW

“Le Bakelite,” on Boulevard Marbeuf in Rennes, is a 60-unit, student-oriented apartment building located just 5 meters from the railway tracks. Without structural isolation, this proximity would likely cause discomfort for occupants due to ground-borne noise and vibration propagating through the building structure.

For this reason, a structural isolation solution was specified, targeting a bearing natural frequency of approximately 8 Hz at the Acoustical Design Load (ADL).

Stravibase SEB

Structural elastomer bearings used for building base isolation and comprising a series of elastomer pads laminated to formwork panel for correct positioning and easy and fast installation.

Stravibase Sleeve

Resilient sleeve, used to acoustically decouple the dowels that cross over the isolation system, transferring shear loads between both sides of the vibration isolation joint (cut).



SOLUTION

Stravibase SEB, structural elastomer bearings, were used to decouple the superstructure.

The bearings were installed at each column head and between the concrete structural walls.

Due to significant lateral loads, the isolation system was supplemented with isolated dowels to provide lateral restraint without compromising the target isolation performance.

These dowels consist of steel reinforcement bars acoustically decoupled using resilient sleeves (**Stravibase Sleeve**).

AT A GLANCE

CHALLENGES

- Need for structural isolation due the proximity to the railway
- Achieve a natural frequency of 8 Hz across the entire load range.
- High horizontal load and consequent need for lateral restraint

BENEFITS

- Efficient isolation without compromising structural integrity
- Elastomer pads laminated to formwork on one side, for fast installation and guaranteed correct positioning of the bearings
- Use of thin steel formwork with high load capacity and easy to handle on site
- Fast and easy to install by solution provider

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Stravibase
SEB

