

M'DAM Kohnstamm

Monnickendam, NL



Case Study



Property Owner

BMB ontwikkeling



Main Contractor

De Groot Vroomshoop



Architect

Finch Buildings



Acoustic Consultant

Aveco De Bondt, Nieman



Structural Engineer

Aveco de Bont

Stravibase SEB

- A bespoke structural elastomeric bearing for the structural isolation of buildings and other structures
- Designed to support very large loads whilst being significantly smaller in plan dimensions than traditional elastomer bearings

OVERVIEW

The energy-neutral M'DAM apartment building that is being erected in the Netherlands consists of 106 separate modules made of solid wood (CLT), a first in the country. The facade is partly made of traditional masonry. In total, the housing project will comprise 62 social and regular housing flats with surface areas between 50 and 110 m².

The prefabricated modules are all made of sustainable building materials. Building with wood instead of steel and concrete results in huge CO₂ savings, making this construction method more environmentally friendly than traditional building projects. Moreover, working with prefabricated modules drastically shortens the construction time.

845

Stravibase
SEB



SOLUTION

Together with our local partner Delta-L, we designed more than 845 discrete [Stravibase SEB](#) polyurethane foam bearings to acoustically decouple the stacked residential modules.

The Stravibase SEB elastic supports have a thickness of only 12.5 mm and a resonance frequency between 15 Hz and 20 Hz. They were installed between each building layer to guarantee proper noise and vibration isolation. Bearings of various shapes and sizes with a specific hole pattern were manufactured to suit the design. Matching adjustment plates were supplied as well, to create an overheight so that bolt heads don't accidentally form an acoustic bridge.

To reduce impact noise created by foot traffic, rubber granulate pads were placed underneath the wooden beams of the wooden gallery floor surrounding the properties.

AT A GLANCE

CHALLENGES

- Deliver the required performance (resonance frequency < 20Hz) with a very limited installation height and surface area (i.e. high forces)
- Limit deflection because the elastomer bearings are used between each floor (connection with facade must remain intact)
- Bolt heads of the lower structure can't come into contact with the upper structure after deflection and creep

BENEFITS

- Quick and easy to install
- Limited deflection
- Low creep



845 polyurethane foam bearings and matching adjustment plates of various shapes and sizes and with a specific hole pattern were manufactured to suit the design.

