

Villa Chênes 45

Uccle, BE



Case Study



Property Owner

De Boose - Winssinger



Main Contractor

BLive



Architect

Christophe Galoux



Acoustic Consultant

Bureau Defonseca & Venac



Structural Engineer

SIC ingénierie

OVERVIEW

On Avenue des Chênes, located near the Bois de la Cambre (French) or Ter Kamerenbos (Dutch), an urban public park in Brussels, a new villa is being built.

Villa Chênes is a modern single-family home set in one of Brussels' prime residential neighbourhoods. Unfortunately, because of its location in one of Europe's busiest cities, Villa Chênes is being built above a train tunnel. Therefore, the acoustical consultant involved recommended the acoustic decoupling of the structure in order to guarantee the much desired peace and tranquillity (cfr. the reduction of radiated structure-borne noise during train passages).

Stravibase SEB

- Bespoke structural elastomeric bearing for the structural isolation of buildings and other structures
- Series of specific elastomer strips



SOLUTION

Resilient 25 mm thick polyurethane foam strips were installed on top of the basement walls to decouple the upper part of the house. A detailed installation plan was drawn up to allow the contractor to place the strips with much ease, as several types of resilient strips were needed given the great diversity of loads (mainly linear loads but sometimes also point loads).

The different colors of the foam materials make onsite mistakes almost impossible.

By isolating the upper part of the villa from the basement, vibrations coming from the railway are mitigated and the home owners can be sure of good acoustical comfort.

Photographer: BLive & Michael Vanstraelen

AT A GLANCE

CHALLENGES

- Proximity to underground railway tunnel (cfr. groundborne noise)
- Variety of different loads

BENEFITS

- Custom-made isolation system optimized to the technical specifications
- Long-lasting and maintenance-free structural solutions
- Quick and easy to install following the installation plan

12 Hz

Stravibase
SEB

Ca.

9 685 kN

Project
Design Load

