

SUCCESS STORY

VIBRATION ISOLATION

Residential building, Petershausen

PROJECT DATA

Brief description

Vibration isolation of a double house, with a basement, which is partly in groundwater.

Requirement

Elastic isolation layers at buildings against vibration and secondary airborne noise immissions caused by railway traffic.

City, year

Petershausen near Munich, 2019

PROJECT DESCRIPTION

The building is located in the area affected by a neighboring railroad line. Due to the railroad traffic the building is exposed to vibrations. This causes vibrations and secondary airborne noise within the building, which would have a negative impact on the residents. The basement is partly below the groundwater level. For this reason, the building must be insulated against vibrations with elastic supports that also work in groundwater with a natural frequency of about 7 Hz.

SOLUTION

Calenberg's solution consisted of strip bearings with Cimax 2-Layers below the foundation along the load-bearing walls. The spaces in between were filled with 3 layers of Civerso A. The basement walls have been partially insulated with Civerso A in one or two layers. Thus, the requirements of the building dynamic engineer could be achieved and the legal limits were met.

