

# SUCCESS STORY

## VIBRATION ISOLATION

Single-family house, Fredersdorf-Vogelsdorf

### PROJECT DATA

#### Brief description

Vibration isolation of a multi-storey single-family house with Calenberg elastomeric bearings.

#### Requirement

Development of an economical elastic strip support of the building to protect residents from vibration and secondary airborne noise emissions caused by nearby rail traffic.

#### City, year

Fredersdorf-Vogelsdorf, 2020

### PROJECT DESCRIPTION

On the eastern outskirts of Berlin, in the municipality of Fredersdorf, several single-family houses are currently built in the immediate nearby of a regional train / suburban railway line.

The experts forecast high immissions from vibrations and secondary airborne sound and recommended an elastic building support with a tuning frequency of about 7 Hz.

### SOLUTION

Calenberg carried out an economic strip-shaped (and not full-surface) solution with the bearing type Cibatur®. The strips were placed on the foundations of the outer walls and under the load-bearing interior walls. Cibatur® provides over a very large load range constant low natural frequencies. Therefore the differently loaded foundation sections could be equipped with storage strips of the same width. Subsequently, prestressed concrete hollow slabs were placed on Cibatur® and the joints between the slabs were cast without sound bridges. The vertical protection of the elastic joint against soiling was achieved by fitted joint tapes and thermal insulation plates.

