

SUCCESS STORY

VIBRATION ISOLATION

Tafelhof Palais, Nuremberg

PROJECT DATA

Brief description

Elastic support of a building complex with 270 apartments and shops near a subway line.

Requirement

Elastic mounting of the building under the foundation slab to protect the building against vibrations and secondary airborne noise immission.

City, year

Nuremberg, 2019

PROJECT DESCRIPTION

The complex consists of two towers with 10 and 13 floors above ground respectively as well as of two wings with 7 upper floors each, creating a passage-like courtyard situation. The whole complex is connected with a two-storey underground car park with 117 parking spaces. The listed round building along Allersberger Straße is also part of the modern complex. The total rental area is approx. 49,150 m². The area is situated northeast of the Central Station.

Directly to the south there are 20 tracks of the DB AG. Trams run east and north. Passing trains close to the building cause structure-borne sound waves which are transferred into the soil and thus into the foundation of the building, too. They may be perceived by the future residents as vibrations or so-called "secondary airborne noise".

SOLUTION

Full-surface, single-layer and double-layer installation of Cibatur® underneath the entire base plate and a full-surface single-layer cladding of the entire basement walls with Cibatur®. Implementation of the protective measure with tuning frequencies of 8 Hz or 11 Hz.

The benefits:

- Horizontal and vertical support carried out with Cibatur® solely



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- Cibatur® takes the different sole pressures and earth pressures into account, with virtually constant dynamic properties or natural frequency
- Simple installation on the construction site, without complicated laying plans
- Higher comfort despite nearby railway lines