

SUCCESS STORY

VIBRATION ISOLATION

PROJECT DATA

Brief description

Vibration isolation of three international hotels with underground car park in the immediate vicinity of Düsseldorf Central Station.

Requirement

Decoupling of the hotel complex to protect buildings against vibrations from the adjacent rail traffic.

City, year

Düsseldorf, 2019-2021

PROJECT DESCRIPTION

The 17,000 m² building plot, which borders directly on the station site on one side, will accommodate three international hotel chains. These buildings are to be perceived by rail travellers as a new calling card on their arrival in Düsseldorf. Accordingly, green! architects created a high-quality and representative architecture. The completion of the complex is planned for 2021. In order to protect the buildings against vibrations and secondary airborne noise caused by adjacent rail traffic, a decoupling was necessary.

SOLUTION

The vibration isolation of the entire building complex was carried out with only one type of bearing, Cibatur®. Cibatur® is laid horizontally under the floor slab on the blinding layer in one and two layers over the entire surface. In addition, the basement walls were also covered vertically with Cibatur® over the entire area. The protective measure was implemented with natural frequencies of 8 Hz or 11 Hz.

The benefits:

- Horizontal and vertical bearing with only one product: Cibatur®
- Cibatur® absorbs the different soil and earth pressures, with almost constant dynamic properties or natural frequency
- Easy on-site installation, without complicated installation plans

New construction of three hotels, Düsseldorf



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