CALENBERG

SUCCESS STORY

RAILWAYS

KVB, Kölner Dom / Hauptbahnhof underground station

PROJECT DETAILS

Short description

Installation of a flat mass-spring system in the station and adjacent points system.

Requirement

Develop an efficient solution to reduce vibrations and structure-borne noise on the track and their transmission into the surrounding buildings, especially Cologne Cathedral and its treasury. These inputs of harmful energy are produced by the underground railway operations.

Location, year

Cologne, 2018

PROJECT DESCRIPTION

Between 2013 and September 2018, Line 5 on the Cologne underground ran through a previously unused, old underground rail tunnel at low speed to avoid vibrations. The track system in the central Dom / Hauptbahnhof underground station was about 20 years old and required an urgent upgrade. The work was completed in October 2018.

SOLUTION

During the planning phase, a renowned structural dynamics office recommended upgrading the track by building a new mass-spring system using the Calenberg USM 1000-W. The complete excavation of the track system and the subsequent laying of the USM 1000 W track mats across the entire surface was carried out in sections.

The advantages:

- Elastic support for the track and points system, thus reducing vibrations transmitted into the immediate surroundings
- Cost-effective upgrade for tracks and points, guaranteeing a long service life for the track system in the underground station section

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