

SUCCESS STORY

RAILWAYS

KVB Cologne, Neusser Straße rail triangle

PROJECT DATA

Brief description

Elastic bearing of a track triangle, installation of a floating slab track.

Requirement

Effective technical solution to reduce vibrations and structure-borne noise at the track triangle and their transmission to the neighbouring residential buildings.

City, year

Cologne, 2020

PROJECT DESCRIPTION

The KVB is building a new depot for light rail vehicles in Cologne-Weidenpesch. The feeder will be integrated into the lines 12 and 15 by means of a switch system. Passing trams may cause vibrations which are then transmitted into the ground and affect the surrounding buildings. To protect the residents from these vibrations, a mass-spring system was installed.

SOLUTION

The turnout system is supported by a continuous mass-spring system. For elastic decoupling, approx. 600 m² of Calenberg USM 2020 are used as floor and side mats. The floor mat is laid loosely on the concrete base. The side mat is fixed by means of a Z-profile. A rigid connection between the permanent way and the subfloor is interrupted by the mat. The USM 2020 reduces the dynamic forces acting on the surroundings in such a way that the residents are effectively protected from vibrations.

The advantages:

- Delivery of cut-to-length mats enables efficient installation
- No water absorption of the mat
- All over drainage underneath the mat due to profiling
- Concreting of the track support plate directly on the mat

