Getzner FactBox













Vibration Protection for Crossrail

London (UK)

Crossrail is one of the largest metro construction projects in Europe. Once complete, the line will carry over 200 million passengers per year. Sound and vibration protection is extremely important for this project.

Special measures were required in some sections of the tunnels to protect neighbouring residents from vibrations and noise. For this reason, a mass-spring system consisting of a slab track and a total of 3,000 Sylodyn® discrete bearings was installed between the Bond Street and Tottenham Court Road stations.

The installation of the Sylodyn® bearings was undertaken by the joint venture ATCjv. Due to the small diameter of the tunnel, the elastic elements had to be fitted retrospectively using openings in the middle of the trackway. Two different types of bearings with differing degrees of stiffness were installed.

In addition, bi-block sleeper-base systems have been deployed in other tunnel sections. To ensure the required elasticity in the slab track superstructure, 130,000 Sylodyn® insertion pads for sleeper boots have been installed. This solution has been adopted for numerous turnouts as well.

Advantages

- Maintenance-free
 Sylodyn_® bearings
- Effective protection against vibrations and structure-borne noise
- Better living and working conditions for residents
- A defined elasticity in the slab track superstructure
- Simple installation
- Less maintenance work required



An unprecedented project

Crossrail is the name of a new east-west rail link being constructed across London. The megaproject requires 118 km of new railway line, 42 km of which will be laid through new tunnels. With an estimated cost of around 18 billion euros, the new route will go into service in 2018 as the Elizabeth Line.



Slab track system in the tunnels



Mass-spring system with Sylodyn® discrete bearings



Bi-block sleepers with $\textsc{Sylodyn}_{\ensuremath{\mathfrak{D}}}$ insertion pads for sleeper boots

Fact box:

Scope of the order: 130,000 Sylodyn® insertion pads for sleeper boots

3000 Sylodyn® discrete bearings for a mass-spring system

Client: Crossrail Limited

Operator: Transport for London (TfL)

Getzner Project Manager: Lukas Mayer

Completion: 2018

Construction company: Alstom, TSO, Costain joint venture (ATCjv)







Vibration Protection for Gaziray

Gaziantep (TR)

Gaziray is one of the biggest railway construction projects in Southeast Turkey. Once completed, the line will carry over 35 million passengers per year. Sound and vibration protection is extremely important for this project.

Special measures were required in some sections of the tunnels to protect neighbouring residents from vibrations and noise. For this reason, sections with mass-spring systems were installed.

The installation of the Sylomer® mass-spring system was carried out by the construction company Kalyon ASL TİÇ. Two different types of the mass-spring system with different thickness were installed.

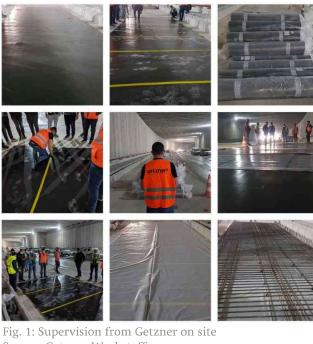
To ensure the required vibration mitigation in the slab track superstructure, 20.500 m² of Sylomer® mass-spring system was installed. In addition, Under Sleeper Pads were installed in the transition zones from ballasted track to slab track.

Advantages

- Maintenance-free
- Effective protection against vibrations and structure-borne noise
- Better living and working conditions for residents
- A defined elasticity in the slab track superstructure
- Simple installation
- High efficiency & long term stability
- Easy and cost-effective installation

An unprecedented project

Gaziray is the name of a new west-east rail link being constructed across Gaziantep. The entire project comprises 4 lines with a total track length of 25.5 kilometers and 15 stations. Four stations and 5 track kilometers of the project were built underground. With an estimated cost of around 2 billion euros, the new route will go into service in 2023.



Source: Getzner Werkstoffe



Fig. 3: Slab Track on Getzner high-tech PUR Source: Getzner Werkstoffe



Fig 2: Mass-spring system Source: Getzner Werkstoffe

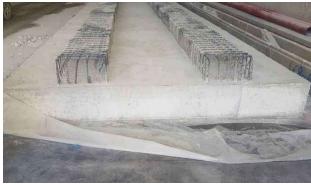


Fig. 4: Slab Track with Sylomer® mass-spring system Source: Getzner Werkstoffe

Fact box:

20.500 m² Sylomer_® mass-spring system Scope of the order:

Client: Kalyon Gaziray ASL Adi Ortaklığı Operator: Turkish State Railway TCDD

Getzner Project Manager: Ismail Bayrak

Completion: 2021

