Corkelast® EBS for Warsaw Metro Line 2

Meeting strict requirements for durability and vibration control

edilon)(sedra has been awarded the contract to supply ballastless track systems for the 2nd extension of Warsaw Metro Line 2 for the Turkish contractor Gülermak. The total project includes approx. 20 km of Corkelast® EBS (Embedded Block System) single track, including 8 stations and a technical depot.

The newly built metro tunnels will run directly under densely inhabited areas. For this reason, the investor Warsaw Metro set strict requirements for durability and vibration control. EBS complies in full with these requirements.

The contract includes edilon)(sedra Trackelast® vibration damping PU-mats for the most sensitive noise and vibration mitigation areas and 41 EBS switches and crossings. The EBS system complies in full with every new section of the Warsaw Metro network since 2008, including the complete 2nd line. Additionally, almost 5 km of Corkelast® ERS (Embedded Rail System) single track will be installed.

The project has already started. Agreement has been reached on a delivery schedule. We will keep you updated!
Opening of 3 Warsaw Metro stations

On Saturday 4 April 2020, three new stations of the Warsaw Metro extension to Wola were opened: Płock, Młynów and Prince Janusz.

All station tracks, installed by Gülermak, are fitted with Corkelast® EBS (Embedded Block System) and Trackelast® noise & vibration mats. Due to the current situation there will not be the usual public celebration of the opening.

Our EBS is not only installed in these stations but also in the tracks between the stations. In total, approx. 6 km of EBS single track was installed. Furthermore, 250 m of Corkelast® ERS (Embedded Rail System) single track was installed as part of a turnaround area.

Two of the new stations: Prince Janusz and Młynów – Source photos: Witold Urbanowicz

COVID-19

In a short period of time COVID-19 has changed our everyday life and work. The virus is causing a major health crisis and has an enormous impact on people’s personal life and the global economy.

In this difficult and challenging period edilon|sedra did not come to a standstill. Our production is running to supply materials for track installations. Our technical departments and sales engineers are adapting to the challenging circumstances, to support your project preparations e.g. from remote workstations. With that and more we aim to secure that the rail fastening systems in your projects are engineered, supplied and installed for railway projects around the globe, while respecting all safety precautions.

If you need our assistance, please do not hesitate to contact us and we will do our best to support you in the continuation of your business processes. We can only overcome this crisis by working together.

In March and April 2020 we supplied materials for a track renovation (rush job) of the Schiphol Train Tunnel. Can we support you with your ‘critical infrastructure’ project? Please contact us.

How can we support you?

Recently, upfront of the actual construction works a Skype work instruction training was provided to delegates from CRTG (China Railway Tunnel Group Co.) and EBB (China Railway Electrification Bureau Group Co.) for project Tel Aviv Light Rail – Red Line.

Can we support you with an online training via Microsoft Skype or Teams about one of our track systems or products? Please contact us.

Please take care and stay safe!
Seamless integration of Corkelast® ERS in new ‘Hisings Bridge’, Gothenburg

edilon)(sedra has been contracted to supply and install more than 2 km of Corkelast® ERS (Embedded Rail System) as part of the tram line on the newly built ‘Hisings Bridge’ in Gothenburg, Sweden

The bridge, which is currently under construction, will replace the existing ‘Göta älv Bridge’ which is in a poor condition and needs to be replaced to avoid high maintenance costs. The bridge connects central Gothenburg with Hisingen and includes a vertical-lift section.

The first meetings between Gothenburg City (Trafikkontoret), COWI (the lead-engineers) and edilon)(sedra took place in 2012. From the very beginning our ERS has been one of the preferred system solutions and in February 2020 our company was officially awarded the contract.

Cost effective designs
One of the arguments in favour of ERS is its limited installation height as the rail system is completely incorporated in the bridge superstructure. The system thereby saves space and promotes cost effective designs. Additional benefits include its excellent vibration isolation characteristics and positive experiences in the past: ERS is already in use in more than 10 km of rail track in Gothenburg!

The first phase consists of approx. 900 m of ERS, and installation is planned for September 2020. The remaining part will be installed in the spring of 2021. The new bridge should be completed in 2022.

More information?
Please contact one of the rail experts of our Bridge Railtrack Competence Centre. They are eager to answer your questions!

Fast track replacement on ‘Kaag Bridge’

In the beginning of 2020 a challenging track replacement was completed on the ‘Kaag Bridge’ in The Netherlands.

The existing EBS blocks (type NS-R1) needed to be replaced on 2 x 140 m of track with new Corkelast® EBS blocks, after 40 years of service without requiring significant maintenance.

The ‘Kaag Bridge’ is an important connection between the provinces of North and South Holland. The importance of this bridge means that it was almost impossible to shut down the line, so we faced the challenge of replacing the blocks within a very short time frame of one weekend shift!
ERS Rail to Earth

insulation resistance tests

Stray current is a major consideration when constructing and managing Light Rail projects. We are proud to share the results of the “Rail to Earth insulation resistance tests” for Corkelast® ERS on Canberra Light Rail where the construction of 12 km ballastless track was achieved with slipform paver.

The outcome of the tests, in accordance with EN50122 and measured under various weather conditions, is outstanding. This demonstrates the perfect electrical insulation of our Corkelast® ERS (Embedded Rail System).

EBA approval for solid structure bridges

We are delighted to announce that the German Federal Railway Authority (EBA) granted edifton)sedra GmbH, Munich approval for the ERS-HR rail fastening on solid bridges.

This continuously elastic rail fastening system, which has been successfully used throughout Europe for over 40 years, is now also available in Germany up to a maximum speed of 160 km/h.

Reduction of construction height

The main fields of application are short framed and semi-framed structures up to approx. 25 m length, with a minimum construction height and demanding acoustic requirements. For this purpose, steel troughs are integrated into the concrete slab, thereby achieving a reduction in construction height of up to 70 cm. The embedding of the rails in a continuously supported elastic polymer is optimal in reducing acoustic emissions and is therefore capable of reducing secondary noise emissions. This was preceded by almost 10 years of operational testing on regional lines, as well as on long-distance and metropolitan area network lines.

Technical support

The ERS fastening system is applied in the Corkelast® LCS level crossing technology, which has already been successfully used for over 20 years in the Deutsche Bahn network. For more information, please contact our technical ERS-HR bridge specialists. They are eager to answer your questions and offer you technical support!
**Projects highlighted**

**Increasing reliability** and passenger comfort

**Project:** Jokeri Light Rail line, Finland.
**Where:** The line will be built between Itäkeskus in Helsinki and Keilaniemi in Espoo.
**When:** Jokeri Light Rail is expected to start operation in 2023.
**By whom:** Raide Jokeri alliance (NRC Group Finland Oy, YIT, Sitowise, Ramboll).
**Our involvement:** As full service partner and track isolation expert, edilon)sedra will supply different types of its SDS rail encapsulation system for nearly 30 km of Light Rail track!
**Purpose:** Increase reliability, capacity and passenger comfort. The line will replace the busiest bus line in the region.

**First Corkelast® LCS installed** in Brazil!

**Project:** Maintenance-intensive level crossing replaced by durable monolithic Corkelast® LCS (Level Crossing System). This is the first LCS crossing installed in Brazil!
**Where:** Port of Paranaguá.
**When:** March 2020.
**Customer:** Rumo. This company is composed of 4 rail concessions in Brazil, totalling 12 thousand km of rail tracks, around 1 thousand locomotives and 27 thousand train units, with which the company transports agricultural commodities and industrial products.
**Purpose:** With Corkelast® LCS in place, heavy rail and road traffic (1,400 trucks a day) can once again make safe use of the crossing which is virtually maintenance-free.
Uninterrupted rail movement during peak of Australian sugar season

Project: Wilmar Kalamia Sugar Mill.
Where: North Queensland, Australia.
When: The installation took place in the beginning of 2020.
Customer: Wilmar Sugar Australia Limited.
System supplied: Corkelast® ERS (Embedded Rail System).
Purpose: A durable track which can provide uninterrupted rail movement and which is protected against sugar acid attack.

The Kalamia Sugar Mill is a large sugar processing factory in Australia which crushes 1.18 Mt of sugar canes per year. The supply of raw materials and finished or semi-finished products is largely transported by bulk trains.

This is why the target of the client ‘Wilmar Sugar Australia Ltd’ was to own a track which provides uninterrupted rail movement (20 t axle load) during the peak of the sugar season to create safe and easy access for the loading of sugar cane into the wagons.

edilon)sedra supplied a structural design and ERS material for a 50 m track, including concrete slabs. The result is a solid and durable rail track.