edilon)(sedra
newsletter July-August 2018

Corkelast® ERS 'Heikinkatu' Bridge in Oulu, Finland
Bridge of the Year 2018!

We are delighted to announce that the Heikinkatu Bridge in the city of Oulu has been named 'Bridge of the Year 2018' in Finland, a title awarded by the Finnish Association of Building Engineers! In 2017 edilon)(sedra installed its Corkelast® Embedded Rail System (Corkelast® ERS) on this state-of-the-art railway bridge.

The 2018 jury deliberated on upgrading, reinforcement or monitoring system projects conducted on bridges in Finland. According to the jury, the aesthetics of the Heikinkatu Bridge have been taken to a new level. The bridge and heavy railway tracks were upgraded and expanded (2 → 3 tracks) in a highly challenging environment. Overall, cooperation between the various project parties was a great success.

The upgrading project was completed in 2017 meeting the set deadline and causing hardly any disturbance to railway or road traffic. To overcome the challenges posed by the very limited available structural height, the Heikinkatu Bridge was designed with a concrete deck in which the rails were installed by means of Corkelast® ERS. This resulted in a structural height of only 0.72 m. The upgrading of the bridge was commissioned by the Finnish Transport Agency. Engineering services were executed by Ramboll Finland in cooperation with edilon)(sedra.

The aim of the Bridge of the Year competition is to pay tribute to sustainable bridges and those operating optimally, and to enhance the quality of bridges. The Bridge of the Year title has been awarded since 2001.

The Heikinkatu Bridge in the city of Oulu, Finland

Corkelast® ERS installed on the bridge

edilon)(sedra proudly presents at Innotrans 2018: its innovative Corkelast® EBS-RF RetroFit block system

It is with well-deserved pride that edilon)(sedra presents its Corkelast® EBS-RF, a state-of-the-art block-based retrofit solution for the replacement of damaged and worn out block tracks - a solution that can even be implemented during short overnight time slots of only three hours!

Increasingly, heavy duty railway traffic, coupled with wet and humid tunnel conditions leads to damaged and worn out old booted (bi-)block systems. This results in higher vibration, increased rail wear, broken tie-bars, concrete damage and track stability problems. Moreover, such booted (bi-)block systems are sensitive to water infiltration, resulting in electrical isolation and signalling problems. As a consequence, metro and train lines often need to be suspended from service. Also, rails are replaced proactively to assure track availability.

Corkelast® EBS-RF simulation

Corkelast® EBS-RF installed in practice

Full-service partner for upgrading projects

As a full-service partner, we provide you with total peace of mind before, during and after your block track upgrading project: from the very first track/tunnel inspection to planning and engineering of the block track installation, from local (nearby tunnel) production of our block systems to logistics, and from the efficient installation of our blocks to supervision.

How can these undesirable out-of-service periods be prevented?

The solution lies in edilon)(sedra's latest elastic technology: Corkelast® EBS-RF. The basis of this RetroFit track system consists of a durable block integrated in an elastic tray, both prefabricated under controlled conditions. The system is approved for Category B metro tracks, it can be adapted to any size and fits perfectly into the pockets after removal of the worn out blocks. Corkelast® EBS-RF is supplied as complete unit, ready for track installation. edilon)(sedra can assist with mould and production facilities, drawing on innovative production techniques while eliminating logistics costs. As full-service partner, edilon)(sedra supplies on-site installation methodologies as well as supervisory services – depending on customer requirements, of course!

The result?

The renewal of worn out booted (bi-)blocks for a maintenance-free EBS track is a reliable and cost-effective solution, aligned with current standards. The solution allows for the transportation of millions of passengers for years to come.

More information:
Come and visit our Stand 220 in Hall 25 at Innotrans 2018 Berlin, to experience our Corkelast® EBS-RF and latest track technology.

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Divestment of edilon)(sedra Bau GmbH finalised

On 01 July 2018, edilon)(sedra Bau GmbH business assets were sold to STRABAG Rail GmbH, the German track construction division of the STRABAG SE-Group, one of the leading European technology companies for construction services. This is the result of a series of very positive and cooperative negotiations. Because we have been strongly linked to STRABAG Rail GmbH in the past and are able to look back on a long and very trustworthy partnership, the next natural step appeared to be divestment.

The transaction was closed on the basis of an asset deal: edilon)(sedra Bau GmbH staff and equipment have been transferred to STRABAG Rail GmbH. Our sites in Wiesbaden and Hermsdorf will be rented out to the same party. One of our main objectives in the negotiations was to ensure that all staff retain the same terms of employment as they enjoyed with edilon)(sedra Bau GmbH. Furthermore, for both STRABAG Rail GmbH and our company an important driver in this transaction was to enter into a cooperation to jointly develop new systems, products and installation technologies, use synergies and build specialist competences in order to strengthen our market positions in the long term.

In spite of the very complex and competitive market conditions in Germany, the cooperation contract demonstrates that our company has built a strong reputation in the market. This step, taking us further into the future, allows us to focus on our core competences: the supply of innovative track systems and engineering consultancy services, together with technical support offered by one of the major European construction companies.

Fast, accurate measurements for safe, reliable track systems

New non-contact displacement and position sensor technology for the edilon)(sedra testing centre

edilon)(sedra has recently started a series of mechanical track system tests, using a new smart type of non-contact laser sensors: the Micro-Epsilon ILD1420-25. These triangulation displacement laser sensors offer a unique combination of speed, size, performance and application versatility for conducting displacement, distance and position measurements.

The sensors achieve high measurement accuracy and measuring rates of up to 4 kHz. They eliminate the influence of contact effects between the probe and the measured surface (for example rail or concrete). Furthermore, the sensors detect the smallest targets due to point-shaped measurement. They can handle a large measuring range and allow for testing in high resolution with excellent linearity.

edilon)(sedra testing centre, using the new type of non-contact laser sensors

Test methods

The suitability of rail fastening systems for application in operational tracks is usually assessed by means of a couple of mechanical tests performed in a laboratory under controlled temperature conditions and with specific loads, representing fictitious operational loads. In this test battery, attention is paid to two tests: the vertical stiffness test and the repeated load test.

Vertical stiffness test
The vertical stiffness test is performed before and after the repeated load test to establish the effect of load repetitions on the stiffness, and thus on the durability of the rail fastening system.

Repeated load test
The repeated load test, which consists of an uninterrupted series of 3 million load cycles at 3-5 Hz, is preceded and followed by an angular static stiffness test, in which the lateral rail head movement under the test load is recorded. This record provides illustrative values for lateral rail head movement.

edilon)(sedra testing centre

edilon)(sedra's testing centre allows us to test our latest track technologies under operational conditions, improve quality and performance, ensuring we put reliable and safe track systems into service.

TOC Rotterdam 2018

edilon)(sedra looks back on an interesting TOC Rotterdam 2018 exhibition, held on 12, 13 and 14 June in Rotterdam, The Netherlands. TOC offered us the opportunity to share our latest insights in crane rail and slab track system technology for industry, seaports and multimodal terminal projects.

A particular point of interest was a realistic 3D model of our Corkelast® Crane Rail System, one of the showpieces of our stand. Visitors from numerous disciplines visited our stand and showed interest, from Container terminal directors to Port engineers, from Maritime directors to Crane specialists.

At this year's event, we shared our stand with RapidRail. For the United Kingdom and Middle East regions, edilon)(sedra works closely with this crane rail installation specialist. By joining forces, we deliver seamless crane rail solutions that allow industrial rail customers to focus on what really matters: their operations.

DOWNLOAD

Download our 'Teesport phase III' crane rail case here, describing the crane rail replacement done on the third phase of the Teesport Docks, The United Kingdom.

Recent bridge project in the spotlight

Upgrading of the "Kirchenfeldbrücke" steel bridge tracks in Bern, Switzerland

edilon)(sedra has been awarded the contract for upgrading the tracks on the steel bridge named Kirchenfeldbrücke which is over 130 years old, crossing the river Aare in Bern, Switzerland.

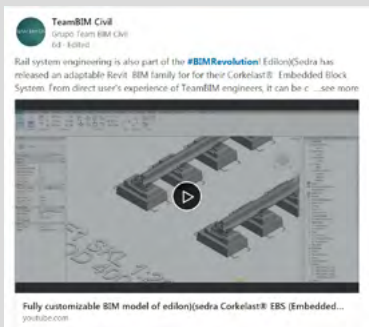
The contract includes the delivery of our Corkelast® Embedded Rail System, rail joint constructions from Vossloh-Laeis, steel trough constructions as well as consultancy and quality control supervision.

Length of the bridge: 229 m
Height of our system: 190 mm
Rail type: 53R1 (Ri53 – 10)
Track gauge: 1,000 mm
Unique selling point: Reduced height and vibration noise reduction (soft stiffness)
Contracting period: July – September 2018
Customer: Bernmobil, Städtische Verkehrsbetriebe

Kirchenfeldbrücke in Bern, Switzerland

edilon)(sedra BIM videos on LinkedIn

With a view to informing our customers and partners about how to integrate edilon)(sedra BIM models (Revit models) into a project's BIM model, our Application Engineering department has produced a series of short videos. We have shared these videos on LinkedIn and so far they have been well received (see below). Looking for more info? **Contact:** Jonás Recio Sánchez J.Recio@edilonsedra.com



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The Lusail Light Rail Transit Project, Qatar

Alstom selected edilon)(sedra Jointelast PU Extra 15 as the rail joint sealant of choice for the Lusail Light Rail Transit (LRT) System in Qatar. After an intensive selection process, the product was approved for the extreme conditions of this project.

The LRT system constructed in the city of Lusail, is being developed by Qatar Rail. The network will consist of 4 main tram lines spanning 33.1 km and 37 passenger train stations.

The network will comprise 10.4 km of underground track and 22.7 km of ground level and elevated tracks, including a 0.5 km track between two high-rise buildings. It will include approximately 8 km of single track and 25 km of double track. The first line, the Yellow Line, is scheduled to open in 2018, while the remaining three lines are expected to enter commercial service in 2020.

Jointelast PU Extra 15

edilon)(sedra Jointelast PU Extra 15 is resistant to the high temperatures and extreme environmental conditions of Lusail. Our joint materials are able to handle significant differential displacement and strain under static and dynamic loading conditions. The products have good adhesion properties and prevent the penetration of water, fluids and lubricants into the joint. edilon)(sedra has over 40 years of experience and many kilometers of international project references in diverse climatic conditions.

Construction site images - Lusail Light Rail Transit System, Qatar