



SIKA AT WORK

RECONSTRUCTION OF STEEL BRIDGES OVER THE BIALA RIVER WITHIN THE MODERNIZATION OF RAILROAD LINE NO 96 AT TARNOW - STROZE SECTION

SIKA TECHNOLOGY: railfixing: Icosit® KC 340/65, Icosit® KC 330 Primer

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MODERNIZATION OF THE STEEL BRIDGES

THE RAILROAD LINE NO. 96 Tarnow -state border in Leluchów was put into operation in 1876. Heavy downpours across Poland in June 2010 caused the tracks to wash out and slopes to slide in many places. Traffic on the entire route was restored in 2011. Modernization of the Tarnow - Stróże section of railroad line No. 96 was carried out in 2010-2011 within the Regional Operational Programme of Małopolska Region. It included replacement of railroad surface along the length of about 13 km, reconstruction of bridges and culverts as well as replacement of turnouts and traction posts. intersection surfaces, water supply and sewage networks, traction network, curb replacement and adjustment of existing pavements, also renovation of traction poles.



OLD RAILWAY SUPERSTRUCTURE REPLACED WITH ERS SYSTEM

PROJECT REQUIREMENTS

As part of the modernization of the Tarnow - Stróże section, two steel bridges over the Biała River in Pleśna and Pławna were reconstructed. The superstructure on the bridges was replaced with Embedded Rail System. During the reconstruction, the facilities were equipped with steel rail channels to which the rails were laid. The total length of the objects was approximately 150 mb. Due to the thermal expansion of the steel bridge structure, it was also necessary to install a rail compensating device regardless of the bridge expansion design.

SIKA SOLUTIONS

The rails on both bridge structures were fastened in steel rail channels with the Embedded Rail System using of **Icosit® KC 340/65** and **Icosit® KC 330 Primer**. This solution protects the structure from dynamic loads and reduces vibrations and secondary (material) noise. In Embedded Rail System using of **Icosit® KC 340/65** - the product is applied in a liquid form and cures without shrinkage, thanks to which it perfectly adapts to the substrate, ensuring the tightness of the solution.

After hardening, it is characterized by high resilience, (shore A ~70). **Icosit® KC 340/65** has very high electrical resistivity, Embedded Rail System using of **Icosit® KC 340/65** with 60E1 rail during the electrical resistance test carried out according EN 13461-5 shows average corrected resistance 50.97 kΩ of the system never less than 43.27 kΩ, standard min requirement is 5 kΩ.

Embedded Rail System with the use of **Icosit® KC 340/65** ensures high adhesion between the flexible **Icosit® KC 340/65** - PU grout and the steel channel, thanks to which using the anchors bolts is not necessary, what was confirmed in the approval process for ERS using of **Icosit® KC 340/65**: laboratory and field application tests in accordance with EN Railway Standards, positive opinion of net operator, and finally, many years of operation confirming the durability of the ERS using of **Icosit® KC 340/65**. In the case of the implementation of the ERS using of **Icosit® KC 340/65**, it is necessary to ensure the appropriate degree of substrate preparation together with application conditions in accordance with the technical data sheets and Method Statement for Embedded Rail System using of **Icosit® KC 340/65**.





PROJECT PARTICIPANTS

Owner: PKP PLK S.A

Investor: PKP PLK S.A ZLK Nowy Sacz

Project: CE Project Group Sp. z o.o. limited partnership

General Contractor: DOMOST Sp. z o.o from Malkinia Gorna

Sika Poland: Tomasz Wesolowski, Piotr Zietek

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