DB Netze
DB RegioNetz Infrastruktur
GmbH Südostbayernbahn Permanent Way
Investment I.N-RNI-SOB IP (5)

DB Netz AG
Technology Management Track Technology
Permanent Way I.NVT 41 (G)

DB Netz AG
Permanent Way Materials Works Witten
(I.NPV 24 (1) Bridge Sleeper Production
Nuremberg)

SEKISUI CHEMICAL GmbH
Performance Materials Division
(FFU & Calmmoon)
In August 2011 South Eastern Bavaria Rail, which is part of Deutsche Bahn RegioNetz, installed FFU synthetic wood as bridge beams on line section 5720. The open steel railway bridge crosses the Große Vils river near Vilsbiburg and was fitted with 108 bridge beams. Mr Leonhard Asbeck was the responsible project manager on the customer side.

This project was selected by Messrs Gabler and Dratwa (both from the I.NVT 41 (G) Technology Dept.) for the service trial of FFU synthetic wood as per approval by the German Federal Railway Authority (EBA), and with the participation of the regional rail network. I.NVT 41 (G) drew up the necessary company-internal approval.

Future projects of DB Netz AG are to be implemented with the participation of I.NVT 41 (G) and company-internal approval granted beforehand.

The necessary work was carried out on the double-span bridge under the technical and organisational responsibility of Mr Richard Baum, head of the bridge sleeper production department in Nuremberg (I.NPV 24 (1)).

In the initial phase the existing bridge sleepers of wood were removed step by step and then replaced by FFU synthetic wood sleepers.

The new bridge sleepers had to be adapted to the existing rivet pattern of the longitudinal steel girder. This was done in a very innovative and precise way by copying the rivet pattern onto a plastic sheet and then tracing it onto the underside of the new FFU bridge sleepers. Finally, the hollows for the rivet heads were bored out in the new sleepers.
The bore holes prepared in this way for the rivet heads needed to be re-chiselled in some cases. This was done using common wood-working tools.

Once the preparatory work for the support on the steel girder was completed, the FFU prepared synthetic sleepers were carefully laid at the correct position with the help of a road-rail excavator and a hanger.

All of the FFU bridge sleepers had already been marked clearly and adjusted to the required gradient at the Nuremberg works.
FFU synthetic wood bridge sleepers with pre-fitted grooved plates.
Creating the snug support on the steel girders and securing the bridge sleepers to them.

The drilling for these fastenings was done on site to take accurate account of the different formations of the top boom.
Arrangement of rail pads and lifting the laterally supported rails.
The new FFU synthetic wood bridge sleepers are fitted perfectly.
FFU synthetic wood as a flat sleeper

Line section 5720 crosses several minor and main roads. Flat sleepers of FFU synthetic wood with an overall height of only 10 cm were installed in the ballast bed in two such projects because of the given free passage and structural heights.
In the transition areas concrete sleeper-line section and FFU flat sleeper-bridge the height difference is easy to make out.

Due to the low overall height of the FFU synthetic wood sleeper, under ballasting has been maximised on these special projects.
In the transition area ballasted track – bridge object the existing support form also called for the use of some flat sleepers of FFU synthetic wood.

The final step was track alignment by machine in order to hand over the track system to South Eastern Bavaria Rail conformant to plans.