



400mm Bridge Lift Valenton Rail Bridge

Client
SNCF

Principal Contractor
Freysinet

Value
£200,000

Works Commenced
February 2011

Works Completed
May 2011



Valenton Rail Bridge allows the Great Belt Line, which diverts TGVs and freight around Paris, to cross the tracks of Villeneuve yard, in the Val de Marne, south-east of Paris. To allow track improvements in the area, and to permit the passage of a new type of larger rail carriage, the Valenton bridge had to be lifted by 400mm.

Preparatory works involved the construction of support corbels to carry the lifting jacks. Recesses were cut into the face of the abutment and new cantilevers cast. These were tied back to the abutment wall with horizontal, high tensile steel Freyssibars. Then, immediately before the lift, the jacks (blue cylinders in the photographs) and locking collars (silver cylinders) were installed, the hydraulics connected and the system tested.

The lifting operation took place in 30 hours, during the Easter weekend. It began on Sunday at 00.00 h, with Freysinet removing the track and ballast, and terracing back the ballast at the rear of the abutments. Then the jacks were activated and the deck was raised by 100mm using Freysinet's computer assisted lifting method to ensure equal distribution of lift. 100mm shims were inserted below the locking collars which were then manually wound down to take to load. The jacks were retracted and a 100mm shim inserted beneath each of these. The operation was then repeated four more times to achieve a total lift of 500mm.

The next operation was to install precast concrete ballast walls of six tonnes apiece to prevent the fall of ballast into the space between the embankment and the deck. These were installed using two 100t mobile cranes. Elastomeric bearing pads were installed and the deck lowered by 100mm to its final alignment. Replacing the ballast and track completed Freysinet's 30 hour possession and trains were back running on Monday at 12.00 h following the reinstatement of the catenary.

Freysinet Ltd. Innovation House, Euston Way, Town Centre, Telford, Shropshire, TF3 4LT
Phone +44 (0) 1952 201901 Fax +44 (0) 1952 201753 Email rail@freysinet.co.uk