

CASE STUDY

Channel Tunnel Rail Link (HS1)

First UK use of twin block sleepers



SATEBA UK, a Vossloh company, won the £10 million contract to provide concrete sleepers to AMEC SPIE Rail Systems, one of the organisations involved in building the high-speed Channel Tunnel Rail Link through Kent, also known as HS1.

“We chose SBC Rail for their expertise in concrete manufacture. The high-speed rail link is a challenging and exciting project which will help to achieve major reductions in travel time between the UK and Continental Europe.”

Claude Antoine, Project Director for AMEC SPIE Rail Systems

Project:

Channel Tunnel Rail Link (HS1)
from London to Channel Tunnel

Brief:

1. Construction of 74 km (46 mile) ballasted track between Fawkham Junction and Dollands Moor.
2. All track materials to be proven in service and suitable for live speeds up to 300km/hr.

Products Supplied:

S312 Twin Block Booted Sleepers
VAX U41 V Twin Block Sleepers
BON U41 V Monoblock Sleepers
Perforated Drainage Channels

Key Benefits:

- › Reduced noise and vibration
- › Quick, cost effective installation

Project

Following the opening of the Channel Tunnel in May 1994, the Channel Tunnel Rail Link (HS1) was commissioned to reduce the journey time from London to the Channel Tunnel portal at Dollands Moor, near Folkestone.

The 109km (68 mile) high-speed line would be built in two sections. Section 1 started in October 1998 and was completed in September 2003. Section 2 started in July 2001 and the complete Channel Tunnel Rail Link was opened in November 2007.

A consortium named London & Continental Railways won the contract to build the CTRL. In 2009 the Department for Transport assumed ownership.

The present journey from London St Pancras to Gard du Nord in Paris now takes an average of 2hrs 22 minutes!

CASE STUDY

Channel Tunnel Rail Link (HS1)

Solution

Following technical consultation SATEBA twin block sleepers were selected. This was due to the proven effectiveness at reducing noise and vibration in France, where they have been employed extensively by SNCF on the high speed TGV network with trains that cruise at up to 300km/hr. These sleepers are also a commercially competitive component of a successful trackwork system.

This project would be the first in the UK to use twin block sleepers on high speed rail!

Twin block concrete sleepers consist of two reinforced concrete blocks connected by a steel tie bar. The S312 sleeper also includes plastic boots and resilient pads to increase attenuation.

Delivery

Almost 260,000 twin block sleepers were supplied by SATEBA UK and installed on Section 1 (Contract 570) of CTRL, the 46 miles (74 km) between the Fawkham Junction and the Channel Tunnel complex in Kent.

A further 8,000 monoblock sleepers were also supplied mainly for connections to the Network SouthEast. Both types of sleepers have Vossloh fastenings.

SATEBA UK completed production of the twin block sleepers within 13 months to meet the tight project schedule and delivered an average of fifteen 24 tonne loads each day to site, working closely with the CTRL project manager Rail Link Engineering.

CTRL also commissioned the first UK use of Sateba's Perforated Drainage Troughs. An innovative trackside drainage channel system, which was extensively employed to more effectively collect storm water and reduce maintenance costs on the line. Over 21km of Perforated Trough were supplied in various sizes.



Sleepers installed in bails of 10



Adding the rails onto the sleepers



Channel Tunnel Entrance and Exit in Kent



EUROPE

Sateba – a Vossloh company

16 place de l'Iris
92040 Paris La Défense Cedex • France
Phone: +33 1 46 53 29 00

vtt.europe@vossloh.com



NORTH AMERICA

Vossloh Tie Technologies USA, Inc.

2434 W. Caithness Pl • 80211 Denver, CO.
United States of America
Phone: +1 303-296-3500

vtt.northamerica@vossloh.com



AUSTRALIA

Vossloh Sleeper Technologies Australia Pty Ltd.

GPO Box 606 Level 9 • 295 Ann Street
Brisbane QLD 4000 • Australia
Phone: +61 7 3328 5400

vtt.australia@vossloh.com