

# Sucharskiego Stay Cable Bridge - Poland



*Supply and installation of stay cables using the strand by strand method.*



▲ No crane required : The stay pipes are moved on trolleys, then lifted from the deck to the pylon with winches supplied by VSL.

This project in Poland over the Martwa Wisla River is a part of a new motorway connecting the South East of Gdansk (main road from Warsaw) to the Harbour. Construction works began in 1999 and will be completed in 2002. The overall deck comprises 1 span 25m long, 1 main span 230m long and 4 back spans 39 to 26 m long. The main span is supported by cable stays from a single pylon, and equilibrium is provided by stays to the back span. Total length is 372 m, pylon height is 100 m and quantity of strand for stay cables is 425 t. Sixty stay cables are to be installed, units varying between 31 and 55 strands, 60 to 215 m long.

The client is the Polish Road Administration (Generalna Dyrekcja Drog Publicznych) and the main contractor is a joint

venture between a French construction company Demathieu & Bard and a Polish construction company, Mosty-Lodz S.A.



▲ The first stay pipe is erected with the first strand installed. This strand is connected at both ends to the anchorages and then stressed to raise the stay pipe. The strands are then pulled one by one through the stay pipe, connected to the anchorages and individually stressed.

## Scope of works performed

- Supply and installation (strand by strand) of the cables.
- Installation of coloured stay pipes with anti-vibration system.

VSL Polska is the subcontractor for the installation of the stay cables. The VSL scope of work comprises design and installation of the stay cables including materials, supervision, labour and equipments.

Instead of fully prefabricated cables, VSL in Poland used the strand by strand method to install the stays of the Sucharskiego Bridge. The first stay pipe is erected with the first strand



▲ *The strand by strand installation allows perfect parallelism of the strands, high Erection speed, simple and repetitive operations for local labour, reduced construction loads thanks to light equipment, and the flexibility to adapt to the main contractor's schedule.*

**OWNER**

Polish Dept. Of Transportation

**MAIN CONTRACTOR**

Demathieu & Bard / Mosty Lodz

**STAY CABLES**

VSL Polska Sp. z. o. o.

**DATE OF WORKS**

09/200 – 12/2001



installed. This strand is connected at both ends to the anchorages and then stressed to raise the stay pipe. The strands are then pulled one by one through the stay pipe, connected to the anchorages and individually stressed.

This method offers several advantages: the strand by strand method allows perfect parallelism of the strands, high speed of erection, simple and repetitive operations for local labour, reduced construction loads due to light equipment, and flexibility with the construction schedule of the main contractor.

▼ *The new generation of cable-stayed bridges are longer and more slender. As a result they have higher flexibility and require additional stay stressing Operations. VSL's specific lightweight Automatic Stressing System controls each operation during construction and logs a record.*

▲ *Once installed, the strand is stressed from the stressing anchorage. All tensioning operations can be carried out using a monostrand jack weighing less than 20 kg.*



▼ *The seven Ø15.7 mm wire strands, manufactured according to VSL specifications, are supplied to the site on wooden reels and protected against damage.*



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