



■ Bridges

Reference Details:

**Owner** City of Ulm, Germany +++ **General Contractor** JV Blautal bridge consisting of Baresel AG and Matthaues Schmid, Germany +++ **Designer** LAP (Leonhardt, Andrä und Partner), Stuttgart, Germany +++ **Engineers** Brandolini + Seitz, Ulm, Germany +++ **Consulting Engineers** LAP

**DSI Services** Supply and installation of 8 C27 DYNA Bond Stay Cables.



### First use of DYNA Bond Stay Cable System in Germany

#### Blautal bridge in Ulm, Germany

In the past either lock coil cables or cables made of post-tensioning bars were used for stay cable bridges in Germany. The traffic planning and road construction authority of the city of Ulm were convinced that the efficiency and reliability of the DSI DYNA Bond System met their high standards, and for the first time a stay cable bridge project in Germany has been built using strand cables. The Blautal bridge, located in Ulm, provides a link

between the city's Kuhberg district and the Eselsberg district. The main bridge consists of 24 spans and has a total length of 685 m. The largest span has a width of 41 m and is supported by two pairs of stay cables on each side. This span passes over the B28 federal highway. The two 20 m high conically shaped pylons and stay cables provide an interesting eye-catcher.

A total of 8 cables each with 27 Ø0.62" seven-wire galvanised, waxed and HDPE-sheathed strands were required. The cables are up to 30 m long and were preassembled on the bridge deck. They were subsequently placed into final position using a traverse and a mobile crane. After all 8 cables were placed, two opposite cables were simultaneously stressed at the deck anchorage with multistrand jacks. After application of the permanent load the trumpet-shaped bond sockets behind the bearing plate of the DYNA Bond Anchorages at the pylon and bridge deck were filled with cement grout.

The PE sheathing and wax are removed from the strands in the area of the socket allowing the strands to become bonded by the grout. Compared to the DYNA Grip Stay Cable System where all static and dynamic loads are transferred via anchoring wedges, the dynamic service loads are mostly transferred via the bond effect and the static dead loads mostly via anchorage wedges in the DYNA Bond System. The pylon on the concave side was vertically post-tensioned with DYWIDAG Multistrand Tendons to counteract the bending moments caused by the fact that the bridge is curved in plan. The overall project was completed in autumn 2002.