

 **Bridges****Reference Details:**

Main Contractor HBG-Civil,
Hollandsche Beton Group
+++ **Owner** City of
Amsterdam +++

Architect Nicholas
Grimshaw +++

Engineering
Ingenieursbureau
Amsterdam (IBA)

DSI Services Supply and
installation of eight
tendons; single and
double 19-0.62" DYNA
Grip tendons.



The Yssel sea crossing

The so called Bridge 2001 is to connect the mainland with man made islands in the Yssel Sea near Amsterdam. The bridge project was designed to employ the newly developed DYWIDAG DYNA Grip stay cable anchorage.

The 230 m long Bridge 2001 consists of two 75 m arches supporting a central girder with a span width of 30 m. Three steel arches form the main supporting structure. The deck is supported by suspended steel cross beams. Large 91-0.62" tendons were used as the main tension elements.

The stressing operation had to be carried out in a confined space. Installed into the final structure were a total of eight large tendons

- single tendons for each of the four inclined arches and
- double tendons for each of the two vertical middle arches.

During the construction phase the outer inclined steel arches were braced using two 19-0.62" tendons per arch. Tendons with the new DYNA Grip cable stay anchorage design were used for this project. Each individual tendon was installed in three steps according to the construction progress and stressed using single strand jacks and the DYWIDAG ConTen method.

In the areas of the steel cross girders the tendons were guided through a multidirectional elastomeric bearing. The single curvature in the longitudinal direction as well as the honeycomb pattern in the wedge plate make it possible to install the strands in layers. Access windows facilitated the parallel installation of the strands to guarantee the life time durability of the stay cables.