

## GATESHEAD MILLENNIUM BRIDGE.

The arch sections were fabricated in Bolton by Watson Steel Limited and transported by road to Howdon, 6 miles downstream of the bridge site. The sections were then painted and welded together to form the bridge superstructure. The superstructure was lifted and transported upstream by a barge-mounted crane called Asian Hercules II on 20 November 2000. The bridge was lowered into place and commissioning commenced.

The superstructure consists of S355J2G3 steel (formerly designated Grade 50 steel) with a permissible bending stress of  $355 \text{ N/mm}^2$

The stay cables are Spiral Strands/Ropes with a yield stress of  $1350 \text{ N/mm}^2$ . Approximately 890 lin. metres were used.

There is a system of horizontal bearings or pivots at each side of the bridge and the bridge rotates about these pivots when the hydraulic rams push against a vertical paddle in each end-support. The hydraulic rams (3 on each side of the bridge) consist of steel cylinders with pistons which are activated when hydraulic fluid is pumped into the cylinders.

The concrete end-supports are both founded on a system of 14 reinforced concrete load-bearing piles, which are installed to rockhead at a depth of approximately 20 metres.