



*World's longest-span prestressed concrete girder bridge*

# The Shibanpe Bridge

T.Y. Lin International



*Shibanpe Bridge, in Chongqing, China*

*Chongqing is situated in Sichuan province in China along the Yangtze River, in a beeline some 1500 km west of Shanghai. Chongqing is one of the most populated towns in China, some 6 million people in the town itself, ca. 30 mill. including suburbs.*

In Chongqing, the Shibanpe Bridge is under construction across the Yangtze River during 2003-2005. It is a 7-span prestressed concrete girder bridge, and its 330 m main span will be a new world record. Among this type of bridges, the earlier record 301 m belonged to the Stolmasundet Bridge in Norway.

To eliminate the center pier yet maintain length while minimizing shear and bending, a 100 m long steel box section is placed midspan between the prestressed concrete box girders in the Shibanpe Bridge, Ref. [1]. The only other such a bridge in the enclosed Table is the Chevre Bridge in France, span 242 m.

The Shibanpe Bridge was designed in collaboration by

T.Y. Lin International and Chongqing DRC Engineering Company, the contractor being Chongqing City Construction Group. The expected completion date of the bridge is by the end of 2005.

As appears from the enclosed Table, among the world's leading 20 long-span prestressed concrete girder bridges the majority (7) is located in China, 3 of those in Chongqing. Norway has 4 such bridges, 3 of those having a main span of about 300 m, [2].

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## **Finnish summary:**

Chongqingin kaupungissa Kiinassa, linnuntietä n. 1500 km länteen Shanghaista, on vuosina 2003-2005 rakenteilla Shibanpe-silta Jangtse-joen ylitse. Tyypiltään se on 7-aukkoisen jännitetty betonipalkkisilta, pääjänneliltään 330 m maailman pisin lajissaan. Rakennepainon keventämiseksi pääjännteen keskimäinen 100 m osuus on teräspalkkirakenteinen, viite [1]. Viereisen sivun taulukon perusteella maailman 20:stä pitkäjänniteisimmästä jännitetystä betonipalkkisillasta eniten (7) sijaitsee Kiinassa, toiseksi eniten (4) Norjassa, [2].

## *References:*

- [1] "U.S. engineer keeps busy with China connections". Engineering News-Record 2004-01-12 ([enr.construction.com-01/12/04](http://enr.construction.com-01/12/04) issue).
- [2] Web pages of the Helsinki University of Technology (HUT): [www.hut.fi/Units/Bridge/longspan.html](http://www.hut.fi/Units/Bridge/longspan.html)

## THE LEADING 20 LONG-SPAN PRESTRESSED CONCRETE GIRDER BRIDGES IN THE WORLD

(completed, or under construction by 2004), [2].

No.	Bridge	Span	Location	Year
1	Shibanpe (*)	330 m	Chongqing, China	2005
2	Stolmasundet	301 m	Austevoll, Norway	1998
3	Raftсандet	298 m	Lofoten, Norway	1998
4	Sundoy	298 m	Mosjøen, Norway	2003
5	Humen-2	270 m	Guangdong, China	1997
6	Gateway	260 m	Brisbane, Australia	1986
7	Varodd	260 m	Kristiansand, Norway	1994
8	Luzhou-2	252 m	Sichuan, China	2000
9	Schottwien	250 m	Semmering, Austria	1989
10	Ponte S.Joao	250 m	Oporto, Portugal	1991
11	Skye	250 m	Skye Island, Scotland	1995
12	Confederation	43 x 250 m	Northumberland, Canada	1997
13	Huanghuayuan	3 x 250 m	Chongqing, China	1999
14	Huangshi	3 x 245 m	Hubei, China	1995
15	Pont de Chevre (*)	242 m	Nantes, France	1990
16	Koror-Babelthuap(**)	241 m	Toagel Channel, Palau	1977
17	Hamana	240 m	Imagiri-Guchi, Japan	1976
18	Liuguanghe	240 m	Guizhou, China	1993
19	Jiangjing	240 m	Chongqing, China	1997
20	Hikoshima	236 m	Shimonoseki, Japan	1975
in Finland:				
...	Norrströmmen	135 m	Nauvo, Finland	1986

NOTE: (\*) main span partly steel girder, (\*\*) collapsed in 1996