

# Ching Chau Min Jiang stay cable bridge - P.R.C

2,300 tonnes VSL Stay Cables in Fuzhou - People's Republic of China.



▲ Deck erection and VSL stay cable installation

The Ching Chau Min Jiang CSB forms a part of a toll road, linking Mawei district to Changle International Airport in Fuzhou Fujian province.

The Ching Chau Min Jiang CSB is designed as a double diamond shape pylon stay cable bridge, with variable fan stay deployment and is positioned as the fifth bridge in the category of long span stay cable bridges and as the first in the field of composite stay bridges in the peoples republic of China.

This 1.193 m long bridge has a main span of 605 m, two

## Scope of works performed

- Stay cable supply.
- Stay cable supervision.
- Stay cable installation.

approach spans of 250 m and two 180.5 m high A-shaped pylons. The 29 m wide composite bridge deck, (steel girders & concrete panels) were being erected using balanced cantilever method, utilizing Derrick's on each cantilever.

The bridge also incorporate 4 nos. of stabilizing approach piers, two on each side of the CSB, and each forming spans of 40 m.

VSL Hong Kong Ltd. was awarded the supply contract of the stay cables in December 98 and the stay cable Installation contract was awarded to VSL engineering Corp. Ltd in Oct 99.

The VSL Installation contract for the stay cables, which were ranging in size from 6-27 up to 6-85 and in length between 80 m

up to 311 m, consisted of project and site management, full supervision and supply of a skilled workforce including all necessary specialized stay cable erection tools and equipment.



▲ Pylon after construction



▲ Stay passive and anchorages attached to steel main girder



▲ Main span closure



▲ Bridge deck

**OWNER**  
Fuzhou Municipal Government

**ENGINEER**  
Fuzhou Guangmin Road & Bridge Company

**MAIN CONTRACTOR**  
Hong Kong Construction (Holdings) Ltd

**STAY CABLES**  
VSL Hong Kong Ltd.

**VSL ENTITY**  
VSL Hong Kong Ltd.  
VSL Engineering Corporation.

The VSL stay system utilised on the Ching Chau Min Jiang, was the VSL 200 SSI utilizing 2,300 tonnes waxed tightly extruded PE sheathed 0.6" strands, which were installed using the VSL double strand pulling winch system and were stressed using the VSL automatic monostrand Stressing system in combination with digitally monitored mono type stressing jacks.

The stay pipes were composed out of a white externally extruded HDPE stay pipe with double helicoiled ribs.

The active anchorage was positioned inside the pylon and the passive anchorage is positioned on top of the deck in a steel structure welded to the longitudinal main girders.

The 2,300 tonnes of stay cables were erected during a total erection period of less than 6 months.

Stay Erection Start:  
21/02/2000.  
Stay Erection Completion:  
19/08/2000



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