

 Bridges

Reference Details:

Owner Hamamatsu Public Engineering Office, Shizuoka prefectural government, Japan +++ **Design** Oriental Consultants Co., Ltd., Japan +++

Contractor Kajima Corporation, Sumitomo Mitsui Construction Co., Ltd., both Japan (superstructure only)

DSI Units SUMITOMO (SEI)STEEL WIRE CORP., Tokyo, Japan / DSI Group HQ Operations, Munich, Germany

DSI Services Supply of DYWIDAG Extradosed Cable type VC37 x 0.6", main and shear reinforcing cable 32 mm DYWIDAG bar; Rental of stressing equipment



Tobiu Bridge, Japan

Another five-span extradosed post-tensioned bridge in Shizuoka Prefecture, Japan

The five-span four-lane Tobiu Bridge is part of a beltway surrounding the city of Hamamatsu, Shizuoka Prefecture that provided a principal access route to the Pacific Flora 2004, Shizuoka International Garden and Horticulture Exhibition in 2004. The bridge was named after a legendary swimmer from Hamamatsu, nicknamed " - fujiyama no tobiuo " (flying fish of the country of Mt.Fuji), as suggested by the public. The bridge spans are 38.5-45.0-90-130-80.5 m, total length is 386 m, total width is 25.8 m.

The structure is carried by two sets of eight parallel DYWIDAG extradosed cables type VC 37 x 0.6" in a single central plane, with two pylons made of structural steel on the main piers, height - only - 13 m. The pylons including preinstalled cable saddles are assembled in a factory in two parts, for ease of transportation to the construction site.

The cable strands are provided with three layers of corrosion protection. They are epoxycoated (FLO-BOND), placed in polyethylene pipes and cement-grouted after tensioning. Four 2,500 t bearings are installed above the main piers as bearings to distribute lateral forces during an earthquake. Seismic isolation systems are installed for all sets of stay cables. High-performance dampers were chosen for the extradosed cables because the erection site is subject to extremely strong monsoon winds during winter.