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Strengthening Structures | Protecting Lives Worldwide.



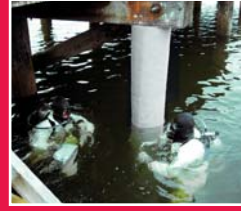
Transportation



Buildings



Pipelines



Waterfront



Industry



Seismic retrofit of ISAP Suburbs Electric Railway Bridge, Athens, Greece

ISAP (Athens & Suburbs Electric Railway) Bridge is located at the Marousi station in north Athens. It is a 300 m length bridge with 18 spans and was built in the 1970's.

As part of the ISAP line rehabilitation plan for the 2004 Athens Olympic Games, the bridge had to be seismic retrofitted. Designer specified the Tyfo® Fibrwrap® System for the structural strengthening of all bridge piers and main beams and a system of hydraulic viscous dampers to increase the seismic energy dissipation in the transverse direction of the bridge.

The Tyfo Fibrwrap® System was applied to 108 piers and all main beams. Special techniques and Tyfo® System materials used for the application and the bonding of the carbon strips under sever vibrations due to heavy traffic operation during the strengthening works. Main beams were strengthened only during night shifts, when the trains were not in operation. Full rehabilitation and Tyfo® applications work had to be completed in a time frame of 3 hours on each night shift.

Bridge strengthening was completed ahead of time with minimum disruption to the surrounding.

Project: Seismic retrofit of Electric Railway bridge

Location: Athens, Greece

Client: Athens & suburbs Electric Railway (ISAP)

Contract Duration: 8 weeks

Scope of Works:

- Seismic retrofit of bridge
- Structural strengthening of piers and girders



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