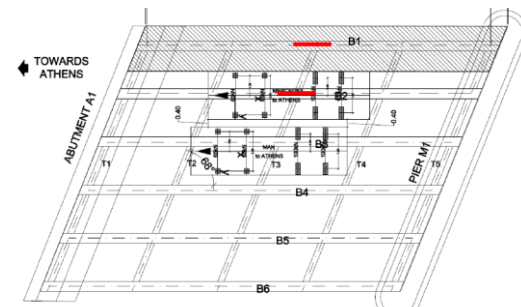


37BR Bridge Loading Test, Platanorema, Greece

osmos

Integrated safety for structures



Location of LIRIS Optical Strands on the bridge

Loading Test of a Highway bridge

Client

AEGEAN MOTORWAY S.A.

Structure

Part of the Maliakos-Kleidi Highway.
Length: 93 m, in 5 identical spans.
Deck made of 6 main beams and 5 cross beams in reinforced concrete.

Context

The client would like to know the real load capacity of this bridge, after some questioning from the Engineering Dpt.

Client's needs

The client needs to keep the bridge, and thus the highway network, open to traffic at all times. A closure of the bridge will seriously impede the operation of the network.

Instrumentation installed

- 2 LIRIS Autonomous Optical Strands

The LIRIS Optical Strands are installed longitudinally on 2 adjacent beams at the middle of a span. They will measure the maximal bending stress under load. Load tests were made by 2 trucks, each weighing 33 tons, passing at 10 and 50 km/h on different parts of the bridge.

Results

Static and dynamic loading tests show results on par with theoretical values. The client received comprehensive information concerning the structural integrity and response of the bridge under the effect of extreme traffic loads.

Client benefits

Thanks to OSMOS results, doubts concerning the bearing capacity of the bridge have been eliminated and the client is able to decide to remove the current vehicle load restrictions, thus avoid further strengthening works. The client is sure of the bridge stability and can continue its operation with full safety.



LIRIS Optical Strand on a beam under the deck



LIRIS Optical Strand on a beam under the deck



Loading test with a truck