

# SIKA AT WORK

## REHABILITATION OF BRIDGE, LORCA, SPAIN

STRENGTHENING: SikaWrap®

BUILDING TRUST



# REHABILITATION OF BRIDGE IN LORCA AFFECTED BY EARTHQUAKE

## PROJECT DESCRIPTION

Lorca, located in southwestern Spain, was a significant frontier town in the Middle Ages between the Muslim and Christian territories. The town was severely damaged in 2011 as a consequence of an Earthquake. The seismic accelerations exceeded notably the anticipated magnitudes established in the existing national seismic code. The bridge that provides access to the fairground was constructed in 1910, and it's considered as the second oldest reinforced concrete bridge in Spain. As a consequence of this, the bridge is part the local heritage of the town.



### PROJECT REQUIREMENTS

Although the structure was showing signs of deterioration even before the earthquake, the subsequent seismic accelerations caused significant damages in the form of cracks and breakage of the concrete members.

This led local authorities to carry out a complete rehabilitation of the structure, comprising the repair of the existing damages as well as the structural retrofitting of the arches.

### SIKA SOLUTIONS

The structural rehabilitation included the injection of the cracks by mean of Sikadur® 52, as well as the restoration of the damages with the Sika® Monotop® mortar range for structural repair.

The main longitudinal arches were confined with SikaWrap® 230C laminates. This confinement limits drastically the lateral expansion of the member under compressive forces, increasing the load-carrying capacity of these elements. This solution allowed efficiently controlling the limited time for the execution. The new techniques will provide a longer life to this centenary bridge.





## PROJECT PARTICIPANTS

Owner: Excmo. Ayuntamiento de Lorca.  
 Project manager: Manuel Jódar Casanova (CETEC Oficina Técnica)  
 Gen. Contractor: Ingedo Proyectos S.L.L.  
 Applicator: Inversiones de Murcia S.L. (Lab. HORYSU)  
 Sika representative: Luis Almela, Sika S.A.U.

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