



# SIKA AT WORK

## BUILDING REHABILITATION FACULTY OF LAW, UNIVERSITY OF GRANADA, SPAIN

STRENGTHENING: Sika CarboDur®

BUILDING TRUST





### PROJECT DESCRIPTION

Granada is located at the foot of the Sierra Nevada mountains, in Southern Spain. This city is well-known for its historical heritage, including the most visited monument in the country: the Alhambra. Granada is also recognized for its university, founded in 1526. Every year, over 2000 European students enroll in the University of Granada through the Erasmus programme, making it the most popular European destination. Due to limitations in its capacity, the Faculty of Law decided to expand its facilities, for which it was necessary to rehabilitate an existing building, and proceed to prepare the existing structure for new anticipated loads.

### PROJECT REQUIREMENTS

The new building was mainly oriented to host the new library as well as part of the auxiliary services of the faculty. The new use of the building obliged to take into account a significantly higher level of loads. However, the main target of the structural retrofitting was oriented to solve the additional punching shear forces and negative bending moments expected in the intermediate concrete slabs. The jobsite was located in the heart of the city, which significantly hinders access of materials due to the narrowness of the streets. This prevented the use of common constructive solutions based on large steel profiles or concrete.

### SIKA SOLUTION

Additional punching shear strength was provided in the area surrounding the existing columns by means of concrete recast and steel frames. The new strength corresponding to the negative bending moment was achieved by the display of 3,600 m of Sika® CarboDur® plates. The CFRP plates were bonded horizontally on the concrete structure. Due to its lightness and facility to transport, the chosen CFRP alternative did not show any trouble concerning the access to the site and its installation.

### PROJECT PARTICIPANTS

Owner: Universidad de Granada.  
 Project: J.M. Ramírez, Antonio Aguayo, Isabel Rus.  
 General Contractor: UTE Biblioteca Derecho.  
 Applicator: Asyma  
 Sika representative: Luis Almela, Sika S.A.U.

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