



# SIKA AT WORK

## OLLETAS BAJO RESERVOIR, MALAGA

WATERPROOFING:

SikaTop®

ROOFING:

Sikalastic®

JOINT SEALING:

Sikadur-Combiflex®

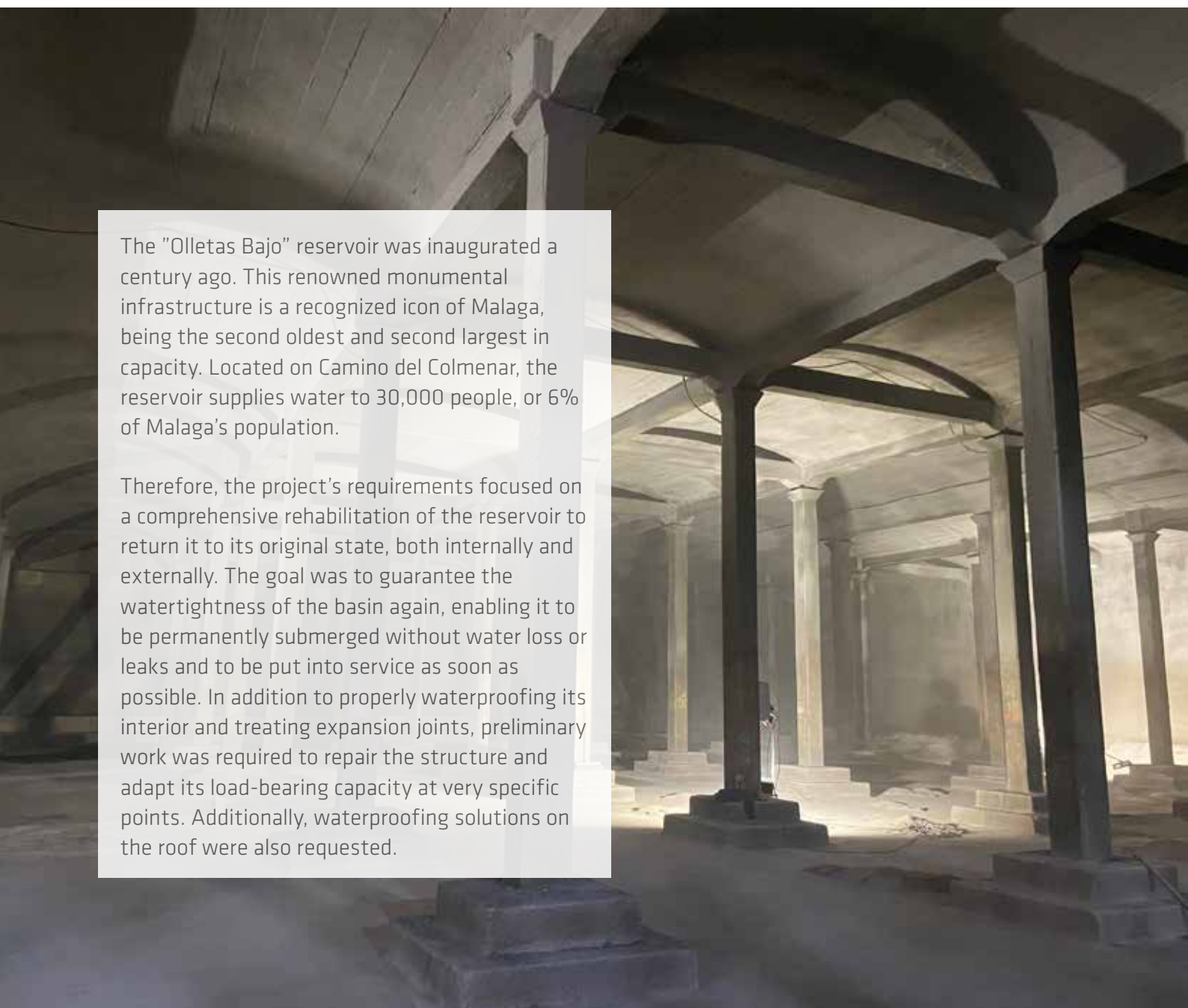
CONCRETE REPAIR:

SikaRep®, Sika MonoTop®

STRUCTURAL STRENGTHENING: Sika® CarboDur®

# WATERPROOFING “OLLETAS BAJO” RESERVOIR, MALAGA

THE PROJECT INVOLVED A COMPREHENSIVE INTERVENTION THAT INCLUDED MULTIPLE APPLICATIONS, SUCH AS INTERIOR WATERPROOFING OF THE RESERVOIR, JOINT SEALING, ROOF WATERPROOFING, AND REPAIR AND STRUCTURAL REINFORCEMENT WITH CARBON FIBER OF THE LEGENDARY “OLLETAS BAJO” POTABLE WATER RESERVOIR IN MALAGA. THE RESERVOIR HAD A CAPACITY OF 45,000 m<sup>3</sup>. DUE TO ITS NATURE OF STORING WATER FOR HUMAN CONSUMPTION, IT WAS VITALLY IMPORTANT TO PROPERLY ADDRESS WEAK POINTS OR AREAS WHERE LEAKS COULD OCCUR AND ENSURE THAT ALL PRODUCTS WERE SUITABLE FOR CONTACT WITH POTABLE WATER IN COMPLIANCE WITH CURRENT REGULATIONS.



The “Olletas Bajo” reservoir was inaugurated a century ago. This renowned monumental infrastructure is a recognized icon of Malaga, being the second oldest and second largest in capacity. Located on Camino del Colmenar, the reservoir supplies water to 30,000 people, or 6% of Malaga’s population.

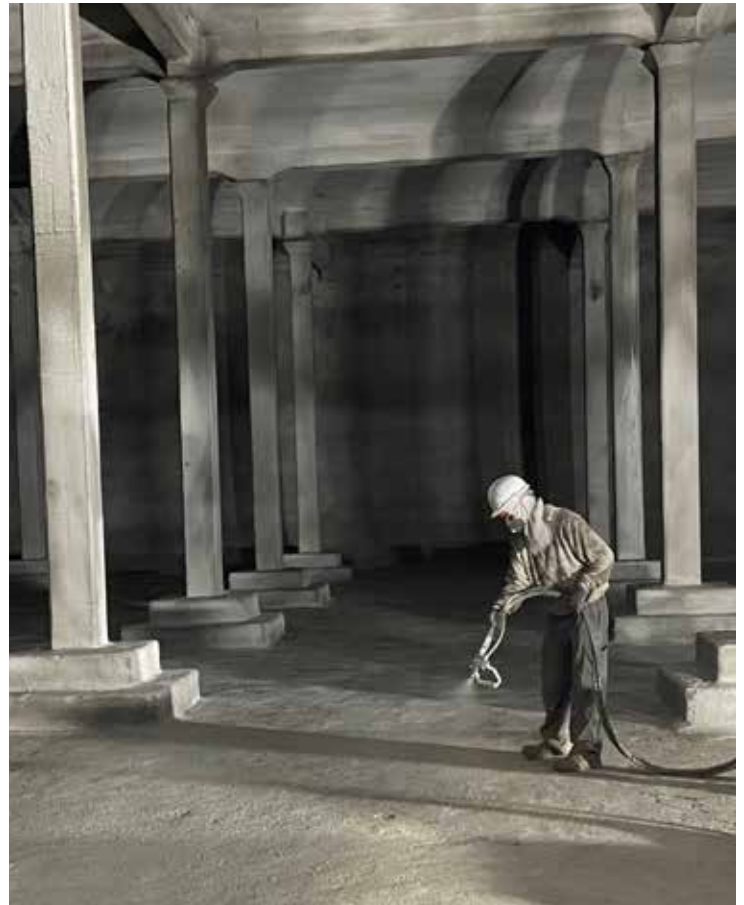
Therefore, the project’s requirements focused on a comprehensive rehabilitation of the reservoir to return it to its original state, both internally and externally. The goal was to guarantee the watertightness of the basin again, enabling it to be permanently submerged without water loss or leaks and to be put into service as soon as possible. In addition to properly waterproofing its interior and treating expansion joints, preliminary work was required to repair the structure and adapt its load-bearing capacity at very specific points. Additionally, waterproofing solutions on the roof were also requested.

## SIKA SOLUTION

Sika, in cooperation with its specialized applicator *Aplicaciones Diéguez S.L.*, supplied several systems to this project during 2021–2022:

- For **structural repair**, once the substrate was properly prepared, the following products were applied: 35 tons of SikaRep®-414, an one-component R4 structural repair mortar formulated with Portland cement resistant to sulfates, selected granulometry silica aggregates, polymers, fibers and additives, and 25 tons of Sika® MonoTop®-412 S, a single-component structural repair mortar, reinforced with fibers, with low shrinkage that complies with the requirements of class R4 of UNE-EN 1504-3
- Depending on the needs and with the aim of **structurally reinforcing** some elements, it was decided to apply the Sika® CarboDur® E system, polymer-based laminates reinforced with pultruded carbon fibre reinforced polymers designed for the reinforcement of concrete structures, bonded with Sikadur®-30 epoxy resin.
- For the **interior waterproofing** of the reservoir, 60 tons of SikaTop®-209 ES was sprayed applied. It is a bicomponent, flexible waterproofing mortar specially designed for waterproofing potable water tanks, complying with the limits indicated in Regulation 10/2011, and for concrete protection according to UNEEN-1504-2:2004.
- For **joint sealing**, Sikadur-Combiflex® SG System was applied for sealing the joints inside the reservoir. It is a high performance system, consisting of a waterproofing tape based on flexible modified Polyolefin (FPO) with advanced adhesion properties, bonded along the joints with Sikadur Combiflex® Adhesive, a two-component thixotropic epoxy resin adhesive placed in a “sandwich” configuration on each side of the tape to ensure its bonding to the concrete substrate.

- Finally, for the **roof waterproofing**, 12 tons of Sikalastic®-612 was sprayed applied. It is a single-component polyurethane membrane, applied cold, with technology activated by humidity, cold applied.



# OLLETAS BAJO RESERVOIR, MALAGA



## SIKA PRODUCTS

- SikaRep®-414
- Sika® MonoTop®-412 S
- Sika® CarboDur® E
- Sikadur®-30
- SikaTop®-209 ES
- Sikadur-Combiflex® SG System
- Sikadur Combiflex® Adhesive
- Sikalastic®-612

## PROJECT PARTICIPANTS

Applicator: Aplicaciones Diéguez, SL  
Sika Organization: Sika S.A.U, Spain

Any product name or reference reflects the Sika product name at the time of creation of this document and may differ from the product name or reference during past events.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



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