

## Grade II Listed Building Refurbishment

Saltdean Lido, Brighton

### SCOPE

- // Concrete Condition Survey
- // Hydro-Demolition
- // Cathodic Protection
- // Concrete Repair
- // Sprayed Concrete
- // Carbon Fibre
- // Anti-Carbonation Coatings
- // Walkway Waterproofing

### DETAILS

- // Grade II listed Lido
- // All defective concrete removed by hydro-demolition
- // Cover-to-steel ratio was increased by overlaying steel mesh with 40mm of concrete
- // Significant concrete repairs to soffits, columns & walls.
- // All concrete elements protected with anti-carbonation coatings
- // Walkways waterproofed using a Triflex warm roof liquid-applied system

SALTDEAN LIDO

# Case Study //

## Concrete Repair

Client | R H Partnership Architects  
 Role | Specialist Sub-Contractor



**Saldean Lido, a Grade II listed building, is a rare example of Modernist seaside architecture, renowned for its Art Deco style and distinctive ship-like façade. Constructed using reinforced concrete with slim walls and minimal structural supports – a groundbreaking feat at the time – its unique features have earned it a celebrated status. English Heritage recognised the Lido as one of the ‘Seven Wonders of the English Seaside’, further cementing its importance as a historical landmark.**

Over the decades, the coastal location exposed it to harsh environmental conditions that took a significant toll on its reinforced concrete structure. The use of local aggregates from seas-dredging in its original construction made the concrete particularly vulnerable

to the salty environment, leading to accelerated corrosion. The Lido became increasingly fragile, necessitating an urgent and skilled restoration effort to safeguard its architectural heritage.

The degradation of the concrete posed challenges such as spalling, carbonation and chloride ingress, all common in coastal structures. Specialised repair strategies were required to address these issues whilst trying to retain as much of the original structure as possible and carefully preserving the original features, including reeded windows, balustrades and timber-block flooring where feasible.

A comprehensive concrete condition survey was conducted which led to the design of targeted

interventions to restore the building’s integrity. A key element was implementing corrosion protection techniques, such as cathodic protection, which stops corrosion to the rebar within the concrete. High-performance repair mortars complemented these methods, restoring the structural integrity whilst respecting its historic aesthetic.

All of the coatings on the concrete surfaces were removed, both internally and externally. High-pressure jet washing was used for the exterior, while grit blasting was utilised for the interior to ensure a thorough and precise removal. All defective concrete was carefully removed using hydro-demolition techniques; known for its precision and allowed the surrounding materials to remain intact.

# Case Study //

## Concrete Repair //

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To enhance durability and protect the structure from future damage, anodes were strategically installed throughout the building, providing long-term electrochemical protection. Additionally, the cover-to-steel ratio was increased by overlaying robust steel mesh with 40mm of concrete. Over 200 tonnes of sprayed concrete were meticulously applied to the building's envelope, fortifying its strength and resilience against the coastal environment.

The restoration also focused on the Lido's iconic architectural elements. The rotunda and flying canopy were reinforced with carbon fibre plates, which were carefully bonded to the concrete based on the Engineers' recommendations and design plans, adding both strength and stability. To protect the walkways of

the rotunda, a Triflex warm deck liquid waterproofing system was applied, providing a durable and seamless protection layer.

To complete the restoration and safeguard the structure's longevity, multiple fairing coats were applied to smooth and prepare the repaired surfaces. Finally, anti-carbonation coatings were applied to all concrete elements to shield the concrete from environmental pollutants and further enhance its durability.

The restoration of Saltdean Lido has been recognised as a Landmark achievement in concrete repair. It earned the Concrete Society's 'Concrete Repair Project of the Year' award and the Concrete Repair Association's award for 'Large Project of the Year' in 2024. The project stands as a testament to how

innovative techniques, such as corrosion inhibitors and protective coatings, can extend the lifespan of historic structures exposed to harsh conditions. It has set a new benchmark for technical and sustainable practices within the UK construction industry.

Beyond its technical achievements, the reopening of Saltdean Lido has revitalised the local community. It has become a vibrant hub that attracts visitors and supports local businesses. By preserving this historic architectural treasure, the restoration has strengthened community bonds and highlighted the importance of conserving the UK's cultural heritage for future generations.

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