



Repair, Reinstate, Restore

King Solomon Academy, just off the Edgware Road at Paddington, was built in the late 1950's as the Rutherford School.

It was designed for the London County Council by the award winning Festival of Britain architect Leonard Manasseh and at the time the Teaching Block was considered innovative with the early use of precast and prestressed concrete in this country.

The school was Grade II* listed in 1997 and was closed in 2006 for refurbishment and formation of the King Solomon Academy.



The uncoated precast concrete mullions to the Teaching Block were in reasonable condition for their age with the need for concrete repairs, cleaning and application of a migrating corrosion inhibitor (MCI) and clear coating to provide protection to the reinforced concrete.

The requirements of English Heritage together with the needs of the Structural Engineer had to be balanced to produce:

- A structurally sound repair system.
- A repair mix similar to the original concrete design in order to replicate the weathered faces of the mullions.
- A mix suitable for hand application.
- A mix matching the existing in colour once cured.
- A clear matt coating.

Initially sample mullions were cleaned by water jet and a range MCIs and clear

PROJECT PROFILE

King Solomon Academy

coatings were applied for approval by English Heritage.

This was followed by the forming of concrete repair samples in moulds using a variety of hand applied concrete mixes incorporating both OPC & white cement together with SBR in varying ratios. A number of these were then rendered with a variety of sand/cement mixes for a thickness of 3mm and then prepared to expose the aggregate to simulate 50 years of weathering

All samples were treated with MCI and clear coating systems for final approval by both the Structural Engineer and English Heritage. In all 16 different samples were produced to accommodate the combinations of mix design and coatings.

The works to the façade were accessed from a combination of cherry pickers and scissor lifts to allow for a full visual inspection, hammer test, cover meter survey and carbonation depth testing. The mullions were cleaned followed by the concrete repair and render treatment that were hand rubbed in places to achieve a matching finish. This then followed by the application of the MCI and clear coating.



Once the glazing had been replaced and the existing frames prepared and painted the building was back to the condition that reflected its grade II* listing.

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