

CASE STUDY

Structural Refurbishment

MAKERS

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PROJECT

BT Cardinal Tower

STRUCTURE

Office Block Tower

CLIENT

BT Leicester

CONTRACT



The BT Cardinal Telephone Exchange on Humberstone Road consists of 17 floors of office space and it stands 84 metres at its pinnacle. It provides a vantage point over the whole city of Leicester.

But it'll be 50 years old soon and it's not looking in the best of health. Leicester's tallest building is certainly no Empire State. The original architects were Lewis Solomen Joseph.

Due to the age and current condition of the building, Makers Construction were asked by CBRE to price on a full external refurbishment of the scheme in 2021, with Lambeth Smith Hampton being the principal designer.

This started with the review of the Testing and Investigation report provided to us from the Concrete Corrosion Consultancy Practice Ltd This included the Carbonation/Chloride/Hammer Testing along with a full defect survey. This allowed for a specification and program to be finalised for the remediations to the structure including all panel pinning also within our scope were replacement damaged or missing glass/metals grills including spandrel panels.

The Materials specification were provided through Sika Ltd and this included not just the repair materials and coatings, but the replacement sealants for the jointing within the external façade of the structure.

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Before



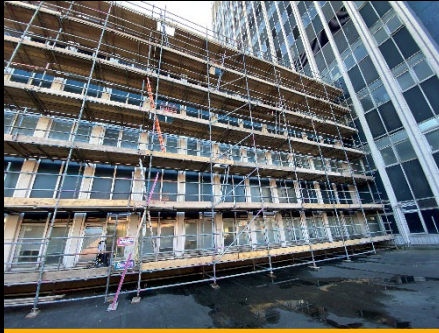
Before



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During



During



During

Access was deemed to be best suited through 2 mast climbers and 6 cradles, this allowed for speedy and continued access to the structure without the need to fully scaffold the building saving time and costs for the client.

The works started in April 2022 with removal of all loose concrete materials, breaking out to a clean edge and preparing the substrate for repair, this also allowed us to assess for any loss of reinforcement, once this had been identified this was replaced and signed off by our engineer, we then primed with Sika Monotop 610, and reinstated the repairs with Sika Monotop 615.

All original sealants had naturally come the end of their serviceable life and can be the primary source for many concrete and water ingress issues. These were removed from existing jointing and windows and Sika Hyflex 600 was installed to the manufacturer's recommendations. Once the repairs and jointing was complete a full Sika 552 aqua primer and 550W Anti-Carbonation coating was applied to all the concrete elements and Sika Guard 680s to the clear glaze panels.

The works were completed in 2023 to the satisfaction to all parties concerned and this iconic building is refurbished and resealed for many years to come.



After



After



After

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