



# SIKA AT WORK

## SEGRO PARK, HAYES

### EXTERNAL REFURBISHMENT:

Sika MonoTop® -4012

SikaTop® Armatec® -110 EpoCem®

Sika® FerroGard® -903

Sika MonoTop® -3020

Sikagard® -550W Elastic

BUILDING TRUST





# SEGRO PARK, HAYES

HIGHLY COMMENDED IN THE CATEGORY OF  
CRA REPAIR & REFURBISHMENT AWARD  
AT THE CONCRETE SOCIETY AWARDS 2022

## AT A GLANCE

WHEN SPECIALIST CONTRACTOR GUNITE EASTERN'S EXTERNAL REFURBISHMENT TEAM WAS APPOINTED BY VOLKER FITZPATRICK TO HANDLE THE REFURBISHMENT OF THE CRUMBLING FAÇADE OF AN ICONIC FORMER NESTLÉ FACTORY, THE RENOVATIONS SPECIALIST - PART OF THE GUNITE GROUP - FOUND THE WORKS REQUIRED WERE SIGNIFICANTLY MORE EXTENSIVE THAN ORIGINALLY FORESEEN. GUNITE EASTERN UNHESITATINGLY PARTNERED WITH SPECIALTY CHEMICALS COMPANY SIKA®, CHOOSING A SELECTION OF ITS PROVEN PRODUCTS TO COMPLETE THE COMPLEX PROJECT.



### The Challenge

The former factory has a rich heritage. It was bought in 1913 by bodybuilder Eugen Sandow - former World's Strongest Man (1889) - to open Sandow's Cocoa Factory producing the 'Health & Strength' chocolate to which he attributed his strength. It was then sold to Nestlé in 1929 who produced the world's first instant coffee from the site until moving its operations to Derbyshire in 2015.

The poor condition of the dilapidated factory would ordinarily have made it a candidate for demolition but, as a locally listed building, this was not an option. With the technical knowhow gained from undertaking similarly challenging projects, Sika® was confident the façade could be saved.

Accordingly, supported by Sika®, Gunite Eastern embarked on the ambitious project involving the complete repair and part-reconstruction of the severely damaged retained reinforced concrete façade of the historically important industrial structure.

### The Solution

The retained façade of the old factory had to be fully repaired and protected, having displayed a broad range of issues: low cover to reinforcing steel, loss of section due to reinforcing corrosion, deeply carbonated concrete, cracking as a result of both movement and reinforcement corrosion and multiple layers of protective (now flaking) coatings. All remedial works also had to carry a minimum of a 20-year warranty.

### Consequently, the scope of works involved:

- Grit blasting all surfaces to remove existing coatings back to the parent concrete substrate
- Hammer testing the exposed substrate and marking up all repair areas
- Chasing out all repair sites to smooth, square-cut sides to avoid feather edging
- Preparing all exposed steel reinforcement to remove a corrosion product
- Using an enhanced steel reinforcement primer (SikaTop® Armatec® -110 EpoCem®) with improved bonding agents and corrosion inhibitor
- Applying a migratory corrosion inhibitor (Sika® FerroGard® -903)
- Carrying out repairs using fibre-reinforced R4 structural repair mortars (Sika MonoTop® -4012)
- Applying a 5mm levelling mortar - vital for re-profiling all column and beams edges to reinstate to the original profile and mask repair areas Sika MonoTop® -3020 to c1500m<sup>2</sup>
- Applying three coats of elastomeric and crack-bridging anti-carbonation coatings (Sikagard® -550W Elastic including surface primer), again covering c1500m<sup>2</sup>



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## Hidden obstacle

Once the demolition of the main building behind the (retained) façade was complete, it became apparent that significantly more structural damage had taken place. Accordingly, seven main structural beams – 6000mm long x 500mm high x 300mm deep – had to be completely reconstructed with new reinforcing steel cages encased in C35 concrete supplied to site by a local ready-mix plant. Structural damage had also been caused during the demolition process, resulting in extensive recasting of some structural members.

Not only did several structural beams have to be recast, but 61 spandrel panels had to be recreated using the same techniques.

Gunite Eastern primarily used Sika's MonoTop® 4012, a one-part cementitious, fibre-reinforced, low shrinkage repair mortar. It contains recycled raw materials, which contributed to reducing the project's carbon footprint.

The project also required innovative techniques to tie together double columns so they could support adjacent columns that had been irreparably damaged as a result of corroded steel reinforcement. New reinforcing steel 'U-bars' were resin-anchored to enable new sections of adjoining columns to be reconstructed.

The Sika levelling and re-profiling mortar applied by Gunite Eastern recreated crisp, sharp lines for all columns and beams. This ensured that the original profile was restored to the lines and levels prior to the application of the protective anti-carbonation coatings.

Graeme Middleton of Gunite Eastern comments, **“THIS WAS A TECHNICALLY-DEMANDING PROJECT, WHICH VINDICATED OUR DECISION TO PARTNER WITH SIKA®. THEY DON'T JUST SELL THE PRODUCTS AND WALK AWAY BUT WORKED WITH US THROUGHOUT THE SEVEN-MONTH PROCESS TO SHARE THEIR IN-DEPTH PRODUCT KNOWLEDGE AND PROVIDE ADVICE AND SUPPORT.”**

**“HERE AT SIKA® WE HAVE A LONG HISTORY OF WORKING WITH CONTRACTORS ON THE SYMPATHETIC RESTORATION OF BUILDINGS,” EXPLAINS SIKA AREA MANAGER MATT BAKER. “WE WERE HAPPY TO HAVE THE OPPORTUNITY TO APPLY SOME OF THAT EXPERTISE TO THE SUCCESSFUL RECONSTRUCTION AND RENOVATION OF A LANDMARK ART DECO BUILDING TO CREATE SEGRE PARK.”**

## Results

The historic factory building and surrounding site was purchased by SEGRO in 2015/16, which created four industrial units and partnered with Barratt London to develop 1,381 sought-after new homes. Today, it is an example of a high quality, urban renewal project that is delivering new homes, jobs and public spaces for the town of Hayes.

## FOR FURTHER SUPPORT AND INFORMATION:

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