

# Refurbishment report for unused offices

Martech was requested to carry out a very detailed concrete condition survey of a single block on a pharmaceutical site to the west of London. The block is currently not in use, but is subject to a study for re-purposing in future.

tested for HAC and cement content. There were some additional tasks on site in the consultant's brief such as small excavations around foundations and internal ground floors, plus some roof dismantling to report on existing build-up.



There were classic signs of concrete distress as a result of reinforcement corrosion and a detailed appraisal of all typical elements of all the structures was needed in order to understand the relationship between concrete cover, carbonation and chlorides. Martech also took cores for petrographic analyses and compressive strength testing to build up a complete picture on concrete condition. Incidental numbers of samples were additionally

Some very detailed structural investigation work was also carried out to establish reinforcing bar types, spacings, sizes and internal condition. This was sometimes supplemented with calibrated Schmidt hammer readings for comparative strength studies.

## London PCC block surveys

Martech was asked by a London local authority to carry out a detailed concrete investigation survey of two tower blocks. The TWA-type PCC blocks in this case were subject to a detailed intrusive inspection, working with the borough's structural engineer, to assess the structural connections between the large panel system elements.

Martech's engineers have over the years carried out many similar surveys in conjunction with principal consultants on all typical types of PCC large panel system blocks, including Bison, Reema, Camus, plus others. Strengthening following the Ronan Point disaster varies, if present at all, and many typical construction faults and issues tend to repeat. Even two adjacent blocks are not always the same in our experience.



### Did you notice?

Martech has, within the last year, won another job refurbishing an old existing impressed current cathodic protection system (ICCP). Just like the last one it went very well (see story inside). This is a very niche market and clearly problem solving is a Martech forte. We are also specialists in the design and installation of new ICCP - in fact, this is the main area of corrosion control services provided by the Martech team. We also install drilled-in Margel corrosion inhibitors.

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# The Inspector

Inspection and Testing News from Martech

Spring 2018

### Did you know?

Martech runs a scored Customer Care Questionnaire system on all our contracts. This helps in the maintenance of pre-qualification schemes such as SafeContractor, as well as meeting key quality objectives under our ISO 9001:2015 certification.

We appreciate the 'other comments' from time to time:  
*'Team on site were excellent. Asked the right questions and had an excellent attitude towards safety'*

*'Operatives managed heavy flow of traffic well in busy environment'*

*'Very good workmanship'*  
*'Very helpful, good communication. Accommodation to slight changes of scope as work progressed (changes due to findings & updates & level of importance of area under inspection)'*

*'Very impressed with service. Jerry Nichols was very helpful. Good price. Thanks!'*

## 1930s ex-RAF hangars cleared for take off

### Martech surveys historic structures being recommissioned for major new development

Martech recently worked with a leading firm of Consulting Engineers to carry out a very detailed concrete condition survey of two 1930s ex-RAF hangars in the west of England. Martech was appointed via the main contractor for the refurbishment of the structures, which will become a research and development facility for a well-known English manufacturing company.

With very significant signs of concrete distress as a result of reinforcement corrosion, a detailed concrete condition appraisal of the structures was needed to understand the relationship between concrete cover, carbonation and chlorides. Cores were also taken for petrographic analyses and compressive strength testing to build up a complete picture. An incidental number of samples were additionally tested for HAC and cement content, as on many of Martech's detailed surveys.

Given the fast track development of the site, we worked alongside a well-known concrete repair company. The only delay to the works was the discovery of various protected species in one of the derelict hangars, halting survey works there. Given that the structures were essentially identical, works proceeded on the sister structure. A later second detailed survey on the roof concrete, inside and out, was also carried out to gather further detailed reinforcing knowledge for the client's structural engineer. Martech's abseiling experience helped with safe roof access methods externally whilst a second - radio connected - engineer inside on a large cherry picker simultaneously worked on the soffit of the arched concrete structure.

The results were, as always, reported in detailed interpretative reports containing all of the findings and photos, as well as outline remedial advice. Martech's reports are presented as PDFs on a bespoke CD in a logical web-style layout.

