



# Sussex Heights

For over 20 years, Sussex Heights has been protected against driving rain and airborne salts by RonaBond Crack Bridging Anti-Carbonation Coating WB. Situated close to the West Pier, immediately behind the Brighton Hilton Metropole Hotel, Sussex Heights is a 24 storey landmark block of luxury apartments.

Sussex Heights was built in 1965 and was originally clad in mosaic tiles, but by 1990 it was clear that the tiles were no longer protecting the structure against water ingress from rain, driven by the prevailing South Westerly winds. To restore the building to its former glory and to prevent further damage, the tiles were removed, repair works were carried out and the entire building was coated with RonaBond Crack Bridging Anti-Carbonation Coating WB.

RonaBond Crack Bridging Anti-Carbonation Coating WB is a waterproof, elastomeric anti-carbonation coating, chosen to provide a rainproof envelope to the structure and protect the reinforced concrete against attack by airborne

salts and acidic CO2 gases. Key to the specification was a 10-year insurance-backed guarantee, underwriting the performance of the product and the application. The guarantee was the first to be underwritten on such a contract in the U.K.

By 2001 the coating was reaching the end of its 10-year warranty period and the client's building consultant, Lambor Associates Surveyors, approached Ronacrete Ltd to prepare recommendations to re-coat Sussex Heights, to enable continual cover and a 10-year extension. Inspection of the existing coating showed that it was in good condition, free from defects and well bonded to the substrate, a testimony to the performance and longevity of the product in a very aggressive environment.

RonaBond Crack Bridging Fabric, a glass fibre reinforced coating product, was specified for the second contract, to provide extra durability and resistance to structural movement and substrate cracking, with a top layer of RonaBond Crack Bridging Anti-Carbonation Coating

WB to provide rain resistance and prevent dirt retention. A further 10 year guarantee was issued on successful completion of the works.

Concrete Repairs Limited, a contractor with specialist knowledge of concrete protection was awarded the contract to re-coat the building in two phases. The phases were carefully planned to be carried out over a two year period around the migration habits of the Peregrine Falcons that nest on the roof of Sussex Heights. The existing coating was cleaned and refurbished to a very high standard under difficult access conditions, requiring extensive use of cradles to provide a cost effective and timely solution to the client.

Daren King, Senior Contracts Manager for the project, said: "The difference between the completed phase and original condition highlights the benefits that the application of RonaBond Crack Bridging Anti-Carbonation Coating WB has made to the appearance of the block. The success of this project can be gauged by the fact that both the residents and client are extremely happy."







## Loughborough Estate

In 1993 it was billed as Europe's Largest Concrete Repair Project. It was Loughborough Estate in Lambeth, South London. The Client was London Borough of Lambeth. The engineer was Ove Arup. It was home to 239 families.

As with concrete repair and protection projects before and after this one, the contractor was allowed to select and price one of two approved repair specifications provided by Arup; one was for a Ronacrete system, the other from another manufacturer used a combination of more materials, resulting in higher contract cost, neither did it offer the assurance and comfort of a 10 year Insurance Backed Guarantee, something many local authorities came to rely upon after suffering early failures of products from other manufacturers.

Three nine storey blocks of flats were refurbished; works included not only concrete repair but also roofing and window replacement. The concrete repair works required the removal of

existing coatings to the concrete using low pressure water and grit blasting – low pressure to reduce the noise nuisance to residents and to minimise the amount of concrete removed in the process. RonaBond Fungicidal Treatment was then applied to kill off mould, fungal growth and algae.

The damaged concrete was identified by the surveyors and cut out to expose sound concrete and clean steel. Rust was removed from exposed steel by wire brushing – no need to grit blast to bright steel when using Ronacrete materials which saves further time and money – and then primed with two coats of Ronafix and cement. The Ronafix mix design D repair mortar of cement, sand, Ronafix and water was mixed and applied to replace the removed concrete.

When repairs were complete a roller applied textured slurry was applied to the walls and soffits to mask the repairs and provide a regular surface to receive the RonaBond Crack Bridging Anti-

Carbonation Coating WB. The coating system used was a solvent primer (water based primers were not yet available), followed by an intermediate coat of RonaBond Crack Bridging Anti-Carbonation Coating WB and a top coat of RonaBond Crack Bridging Anti-Carbonation Primer WB was used to achieve surface texture and appearance. RonaBond Anti-Carbonation Coating WB was applied to soffits and at dpc level to allow water to pass through as required.

To indicate the size of the project, 14,000 litres of Ronafix, 31,000 litres of RonaBond Crack Bridging Anti-Carbonation Coating WB and RonaBond Anti-Carbonation Coating WB were used, 20,000m<sup>2</sup> of vertical surfaces and 10,000m<sup>2</sup> of soffits were treated.

Installation was supervised by Arup engineers, and by Bureau Veritas who ensured materials were applied in accordance with the specification and the requirements of the 10 year Insurance Backed Guarantee scheme.







## Addenbrooke's Hospital

Any nurse knows that you can't just stick a plaster on a serious wound and expect all to be well; some cleaning up and repair work may be required! The situation is similar with buildings; in this case, a concrete repair treatment is necessary. You cannot restore a building structure simply by giving it a new coat of paint! Careful examination, diagnosis and finally treatment are required to ensure recovery back to full health.

The nurses' accommodation at Grantchester House, is a high rise block of flats situated at Addenbrooke's Hospital, Cambridge. The windows needed replacing, and the facades required restoration. First of all RonaBond HB40 concrete repair mortar was used for the concrete repair. Finally, the 'operation' – the finished facades were coated with RonaBond Anti-Carbonation Coating WB.

### RonaBond HB40 – Concrete Repair

A pre-packed high build, medium strength repair mortar for repairing concrete and protecting reinforcing steel. It is used to repair

concrete facades and is suited for overhead applications. Its combination of ease of use and strength makes it an ideal product. It can be applied in thick-section layers up to 75mm on walls and soffits. As a result, it provides good cover to steel reinforcement.

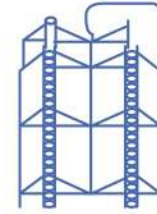
### RonaBond Anti-Carbonation Coating WB – Protection

A smooth, coloured, water-borne acrylic anti-carbonation coating for use on vertical surfaces, soffits and at DPC level. It allows the passage of moisture vapour so it is particularly suited for application to substrates which may contain entrapped moisture. The coating can be applied to external walls and facades and protects against water, frost, and weathering. In addition, it is also an effective barrier against the damaging effects of carbon dioxide gas.

Notably, RonaBond Anti-Carbonation Coating WB is available in a standard range of more than 300 colours. BS or RAL colours can be produced, and the life expectancy of the system is more than ten years.







## HSBC Headquarters, Hong Kong

In Hong Kong more than 300,000 litres of a specially modified form of Ronafix was chosen for corrosion protection to the steel structure of the headquarters building of the Hong Kong and Shanghai Banking Corporation designed by Sir Norman Foster.

The Ronafix modified mortar was chosen for protection of the steelwork, after permeability and adhesion testing proved it to be the right weight and performance for the crucial task of protecting the structure from corrosion in the humid marine environment. Without the protection of the two layers of Ronafix modified mortar, exposure to water, airborne salt and CO<sub>2</sub> gas would have shortened the life of the building. The design life of the protective Ronafix layer was calculated as being at least 60 years.

The bulk of the concrete protection was applied off-site by sub-contractor Contech-Whitmor JV, to ensure that the shot blasting of the steel and spray application of the two layers of Ronafix mortar was achieved under the strictest quality controlled conditions. This meant that the mortar needed to be not only impermeable but also resistant to the impact and abrasion of being loaded onto junks, transported to site, unloaded and erected. After erection, joints and other sections that had to be left untreated were spray applied on site.

The total contract value for the construction of this world renowned building which has 44 storeys, covers 99,000m<sup>2</sup> and graces the famous Hong Kong skyline was over \$650 million.

