

# Protecting the Historic ZAGREB CATHEDRAL



The famous Zagreb Cathedral is the tallest and one of the most beautiful buildings in Croatia. It attracts thousands of tourists from around the world, and it was left to Cortec to provide a solution to help with its restoration.

**A**s the most impressive gothic-style sacral building southeast of the Alps, the Zagreb Cathedral is characterised by great architectural and historical value. Its construction dates back to 1093, although the cathedral has continued to be enriched by famous architects during the following centuries.

Low-quality stone was used as a building material in the past, mainly due to economic reasons, which soon started to deteriorate as it was affected by weather and city pollution (smog and chemical factors). Even though during the communist era in Croatia reconstruction was not allowed, some reparations were made thanks to donations from Croatian Diaspora (Croatian communities that have formed outside Croatia).

Final reconstruction of the precious monument started in 1990, and has been going on in phases according to priority ever since. It is for this reason that the Zagreb Archbishop Committee for Reconstruction of the Cathedral was founded, as well as a task force of selected experts.

Cortec is very proud to be selected by the Committee for the reconstruction of its famous towers, after being recommended by the Faculty of Mechanical Engineering and Naval Architecture in Zagreb, confirming the premium quality of the company's products and services.

## CORROSION PREVENTION

During reconstruction work on the south tower, the steel bands which were surrounding the tower at approximately every 3m were found to be damaged. Most of the bands were covered in rust, and in the drainage areas visual damage to the thickness of the bands could be seen.

An economical approach with a minimum of intrusion to the structure was required to fix the bands in order to either maintain or enhance the mechanical resistance and structural stability of the tower. The Faculty of Mechanical Engineering examined the bands and carried out testing on the steel bars, recommending removal of all loose corrosion from the band surfaces. After this was carried out an application of Cortec®'s anti-corrosion protection product-CorrVerter® was applied to the areas of damage.

CorrVerter® is a water-based primer that quickly converts rust into a protective layer and is capable of penetrating into the depths of corroded surfaces. It contains a novel chemical chelating agent that modifies surface rust into a hydrophobic passive layer. Two-layers of the CorrVerter® coating were applied directly onto the metal bands; brushed onto the smaller surfaces and sprayed onto larger areas. Steel fishplates were then welded onto the bands for reinforcement and also protected with CorrVerter®.

With the help of a skilled team and good project management the entire project was completed successfully with minimal cost or intrusion. The CorrVerter® coating penetrated the non-corroded part of the metal to stop further advancement of the corrosion process. ■





The famous neo-gothic towers of the Zagreb Cathedral were restored using Cortec's CorrVerter