

**Title: Cooling Tower Repairs Reach Nearly a Decade in Service**

***Subtitle: Belzona extend cooling tower lifespan with corrosion resistant coating***

Air, water, chemicals and heat are all elements that combine to make cooling towers severely corrosive environments. Therefore, to negate this combination, galvanised metal is used, acting as a sacrificial barrier in areas of high exposure. However, the chemical components used within the water treatment system can significantly accelerate the consumption of the galvanised metal, leading to premature corrosion. The customer of a cooling tower distributor in Birmingham, Alabama, was noticing similar effects in three of their cooling tower basins. Earlier inspection had revealed deterioration of the galvanised metal throughout the cooling basins, resulting in leaking seams and excessive pitting.



*The three Marley Cooling Towers in need of repair and protection*

Boasting a regular working relationship with the local Marley Cooling Tower distributor, Belzona's Distributor was used exclusively for all their coating applications and, once again, was chosen to carry out the repair and protection of each tower. Ultimately, their customer required sealing of the pan seams, repair of the metal loss and the provision of a coating to prevent future corrosion. A combination of Belzona materials was chosen to complete the application, including waterproofing and corrosion resistant solutions, to ensure the restoration of a watertight and efficient system.



*Repair of leaking seams using Belzona waterproofing membrane*

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Overall, the application took a total of five days, allowing the units to return to service quickly within their specified maintenance timeframe. Initially, the existing caulk was removed from the seams, before full abrasive blasting of the entire cooling pan surface. Following sufficient surface preparation, Belzona 3121 (MR7), a liquid-applied waterproofing membrane, was used to seal the external pan seams, in addition to any bolt heads. Subsequently, internal pitting damage was rebuilt with Belzona 1121 (Super XL-Metal), creating a smooth surface onto which a protective coating could be applied. In order to provide effective corrosion resistance under immersion, Belzona 5811 (Immersion Grade) was chosen to coat the entire cooling pan. Offering significant chemical resistance, the polymeric coating provided a seamless, long-lasting solution to a particularly corrosive environment.



*Completed application of chemical and corrosion resistant coating*

In addition to their positive working relationship, Belzona's Distributor was selected because they offered a complete application package, inclusive of grit-blasting, which allowed them to specify an estimated application lifespan. After nearly a decade in service, recent inspection revealed the cooling towers repairs and protective coatings to still be in perfect condition. Not only had this exceeded their initial warranty of five years, but the customer noted that they were extremely satisfied with the application and will only use Belzona systems for any foreseeable cooling towers maintenance.

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## Notes to Editor;

### **About Belzona:**

- Established in 1952, Belzona has pioneered innovative polymer technology that has revolutionised industrial repair and maintenance procedures.
- Belzona is a leading company in the design and manufacture of polymer repair composites and industrial protective coatings for the repair, protection and improvement of machinery, equipment, buildings and structures.
- At Harrogate, the full Belzona product range is manufactured to stringent quality and environmental control guidelines complying with the requirements of ISO 9001:2008 and ISO 14001:2004.
- Belzona has over 140 Distributors in more than 120 countries ensuring not only the availability of Belzona materials, but also specification support, project management, application and supervision services. Distributorships and their teams are supported by Belzona Corporate offices in Europe, North America and Asia.

### **About this article:**

- High resolution images, if not supplied with the email, are available on request.
- The article can be altered, lengthened or shortened upon request.
- Can we contribute to the article you are writing? We can provide images, technical data, case studies or an interview with one of our technical service representatives. Please let us know if this would be of interest.
- Do you have an upcoming topic that we could contribute an editorial on? Please let us know the topic, preferable length and the material submission deadline.

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