Cooling Tower Base Corrosion Repair and Protection

ID: 10358

Industry:	*Heating, Ventilation & Air Conditioning*	Customer Location:	*Maitland, Florida*
Application:	*HEX-Heat Exchangers*	Application Date:	*July 2026*
Substrate:	*Carbon steel*		
Products:	*Belzona 1161 (Super UW-Metal),Belzona 5111 (Ceramic Cladding),Belzona 5811 (Immersion Grade)*		

Problem

The steel base and supporting structure of the cooling tower showed extensive corrosion and severe deterioration of the existing protective coating. In several areas, corrosion had progressed to localized metal loss and significant surface damage. The customer required the affected structure to be restored and protected to prevent further deterioration while keeping the existing cooling tower support structure in service.



Old coating visible on the upper section of the cooling tower base support, while surface preparation is underway on the lower section, showing removal of the deteriorated coating prior to application of the Belzona repair and protection system.



Close-up of severe pitting and corrosion on the cooling tower support beam before rebuilding with Belzona 1161.



Belzona 1161 applied to rebuild and restore the pitted areas of the cooling tower support beam after mechanical surface preparation, prior to application of the final protective coating system.



Completed cooling tower base rehabilitation using Belzona 1161, Belzona 5811, and a final white coat of Belzona 5111 to restore and protect the existing steel support structure.

Application Situation

The objective was to rehabilitate the existing cooling tower base rather than replace the affected steel structure. Localized areas with significant corrosion damage required rebuilding, while the complete prepared surface needed a new corrosion protection system. The Belzona solution allowed the existing structure to be repaired in place and protected against continued environmental exposure.

Application Method

The deteriorated coating, loose corrosion, and surface contamination were removed using mechanical surface preparation equipment, including MBX and other mechanical tools, to expose sound steel and create the required surface profile. Belzona 1161 was used where necessary to rebuild localized areas affected by metal loss. One coat of Belzona 5811 was then applied over the prepared steel, followed by one coat of white Belzona 5111 as the final protective topcoat.

Belzona Facts

Belzona 1161 allowed localized corrosion damage and metal loss to be rebuilt without replacing sections of the cooling tower base.

Copyright © Belzona International Limited 2026

Belzona 5811 provided corrosion protection over the prepared steel structure, while Belzona 5111 was applied as the final white topcoat for additional environmental protection. The complete system restored and protected the existing cooling tower base while avoiding major structural replacement.

ISO 9001:2015
FS 695214
ISO 14001:2015
EMS 695213

Belzona products are manufactured under an ISO 9000 Registered Quality Management System.

www.belzona.com

Copyright © Belzona International Limited 2026