

# Cold bonding to repair leaky cooling tower

ID: 9358

**Industry:** Heating, Ventilation & Air Conditioning  
**Application:** HEX-Heat Exchangers  
**Substrate:** Carbon steel  
**Products:** Belzona 1111 (Super Metal)

**Customer Location:** Kitchener  
**Application Date:** April 2019

## Problem

Customer was having problems with their cooling tower. The equipment was experiencing corrosion and in some areas they even had through wall defects.



Damaged cooling tower



Surface preparation with a grinder over the affected area



Surface preparation on the underside of the plate to be bonded



Complete repair

## Application Situation

The customer wanted to seal the holes in the equipment to prevent further deterioration. They did not want to weld as they knew that welding would require specialized equipment, hot work and post-welding treatment to revert metallurgical changes caused by welding. We showed the advantages of our Belzona cold bonding solution and the customer decided to proceed with it.

## Application Method

Patch plates were pre-designed to fit the damaged area. The surface of the weakened substrate and underside of the plate were cleaned and abraded to create a mechanical profile. Belzona 1111 was mixed and applied over the damaged area and on the underside of patch plate, making sure the material was wetting out the profile as much as possible. The metal plate was then forced on to the weakened substrate. Excess material exuding from the edges was removed and chamfered around the perimeter of the plate.

## Belzona Facts

The repair was completed in a few hours with minimal disruption to the facility operations. The cold bonding solution is a robust repair and the customer can expect a long term repair out if this solution.

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FS 695214  
ISO 14001:2015  
EMS 695213

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