

Belzona Restores a Chiller with Failed Competitor Coating

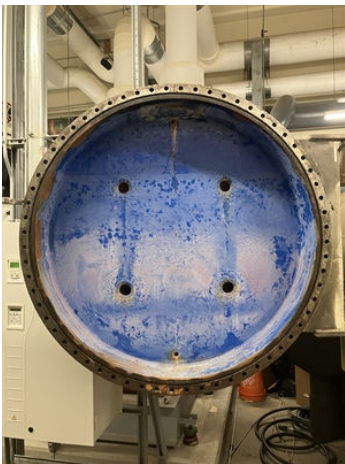
ID: 10105

Industry: Commercial Facilities
Application: HEX-Heat Exchangers
Substrate: Carbon steel
Products: Belzona 1121 (Super XL-Metal), Belzona 1321 (Ceramic S-Metal), Belzona 9111 (Cleaner Degreaser)

Customer Location: Houston, TX
Application Date: September 2025

Problem

A prominent oil and gas focused business, has their global HQ in Houston, TX. The over 30 acre campus has multiple buildings in which employees work from 24/7. The central plant of the campus has multiple chillers that provide AC to the buildings. One of the chillers were previously coated with an enecon coating on the water box, tube sheets, and end covers. During annual inspection they noticed the existing enecon coating bubbling up, delaminating, and failing. The customer was concerned this failed coating could lead to unexpected downtime and reduced efficiency.



End cover, with delaminated enecon coating. Water is under the coating causing blisters/bubbling up near the anodes.



Close up image of the tube sheet showing failed enecon coating with creep corrosion around circumference.



Belzona 1321 applied on the end cover



Belzona 1321 applied on the tube sheet

Application Situation

The customer was concerned the corrosion would cause unexpected downtime that they can't afford. They operate with all their chillers running in the summer and have little redundancy. Installing a new chiller is out of the budget right now, and the timeline to complete that would take over a year. This led the customer to choosing a trusted epoxy coating in Belzona, to provide long term erosion/corrosion protection of the asset. We provided on site consulting, inspection of failed enecon coating, and turn key Belzona repair with QAQC.

Application Method

1. The chiller was taken out of service and a fan was placed on the tube sheet to dry the tubes.
2. A containment was built around each end of the chiller, using wood and sheets of poly to make clean up easy and allow us to control the atmospheric conditions.

For more examples of Belzona Know - How In Action, please visit <https://khia.belzona.com>

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

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3. Tubes were corked. Abrasive blasting was completed, per SSPC-SP10. We used emerald grit and a dry blast. We blasted away the failed coating and achieved 3mil profile on metal substrate.
4. Belzona 9111 was used to solvent wipe.
5. A few small locations needed Belzona 1121 to be applied as pit fill and rebuild lost metal.
6. Belzona 1321 was applied in a two coat system.
7. Corks removed and touch ups applied as needed.
8. Coating allowed to cure and returned to service.

Belzona Facts

Belzona was chosen for its proven track record, our ability to be onsite quickly, ability to turn key this job within the timeframe needed, overall low cost of the job, and partnership with trusted local mechanical contractor. The enecon was failing, so they chose to use Belzona instead.

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