

# Repair and Protection of Inter Stage Chiller Tubesheet

ID: 9191

Industry: Mining & Quarrying

Customer Location: Ras Al Khair

Application: HEX-Heat Exchangers

Application Date: March 2023

Substrate: Carbon steel

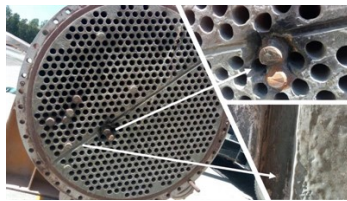
Products: Belzona 1311 (Ceramic R-Metal), Belzona 1392 (Ceramic HT2)

## Problem

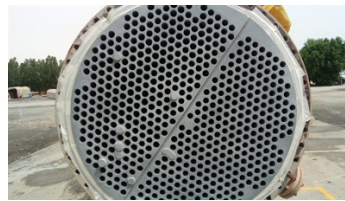
Tubesheet suffering from galvanic corrosion. Erosive damage at the division bar was observed; severe erosion due to the slurry medium.



Initial condition of the tubesheet



Eroded tubesheet and damaged division bar slot



During application



Completed application

## Application Situation

The tubesheet had been deeply eroded and replacement was the preferred option. As there was no standby equipment to replace, the customer was in a situation to repair the damaged chiller. Belzona repair, rebuilding and protection was presented to the customer, who was pleased and satisfied with the method statement based on Belzona heat exchanger repair methods.

## Application Method

Hydro-jet cleaning was conducted first. Wooden plugs were inserted in all tubes to protect against high speed abrasives. A surface profile of 75 microns and a cleanliness of Sa2.5 were achieved. Rebuilt using Belzona 1311 paste grade and protected the tubesheet using Belzona 1392 coating grade. The repair and coating work was carried out in accordance with the Belzona System Leaflets HEX-1 and HEX-3.

## Belzona Facts

Belzona helped the customer by reducing downtime. Equipment life and efficiency were also improved by the protective coating applied to the equipment.

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