

Repair and Protection of Damaged Tubesheet of Air-Water Heat Exchanger

ID: 9176

Industry: Water / Wastewater

Customer Location: Jubail

Application: HEX-Heat Exchangers

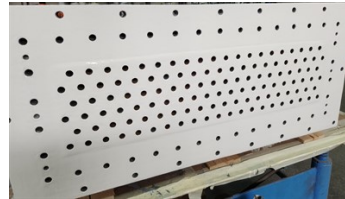
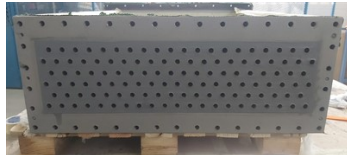
Application Date: October 2023

Substrate: Stainless-steel

Products: Belzona 1111 (Super Metal), Belzona 5892

Problem

Corrosion and erosion of the tubesheet due to the leaks caused by improper tube expansion.



Initial condition of tubesheet

After rebuilding using Belzona 1111

After coating using Belzona 5892

Application Situation

The customer did not own standby equipment and the alternate repair options were welding the eroded tubesheet and re-expanding the tubes in the correct way to stop leaks between tubes and the tubesheet.

With Belzona's repair and protection solution, the customer was able to recover the equipment in three days while improving efficiency and reducing downtime.

Application Method

All tubes were plugged with fabricated corks to protect against high velocity abrasives during blasting. Achieved minimum surface profile of 75 microns and cleanliness of Sa2.5. All damaged areas were repaired using Belzona 1111. After sweep blast, two coats of Belzona 5892 coating at a total DFT of 700 microns were applied to protect the equipment from effects of corrosion.

Belzona Facts

Belzona provided a complete solution to the problem compared to alternative repair options and helped the customer reduce downtime. The coating applied protects the equipment from corrosion, while at the same time improving the efficiency of the equipment.

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