

Tube Sheet Engine Cooling Exchanger Protection with Belzona

ID: 8282

Industry: Power
Application: HEX-Heat Exchangers
Substrate: Steel
Products: Belzona® 1111 (Super Metal),
Belzona® 4311 (Magma CR)

Customer Location: Nuclear electric power plant, Slovakia
Application Date: 2018, 2019, 2020

Problem

These strong acids even if they are diluted cause big corrosion.



Photograph Descriptions

1. Strong acids even if they are diluted cause big corrosion
2. The substrate was grit blasted and cleaned with Belzona® 9111
3. Tube sheets are levelled on the milling machine
4. The application was then protected by 2 coats of Belzona® 4311

Application Situation

The nuclear electric power plant needs to cool some engines by these exchangers (water - inlet 33°C outlet 50°C / air - inlet 110 °C). They have problems after cleaning process, because they use cleaners which content formic, phosphoric and hydrofluoric acids.

Application Method

Application was carried out in accordance with Instructions for use. The substrate was grit blasted and cleaned with Belzona® 9111. Then all the holes on tube sheets were plugged with corks. The corks were then cut at the tube level and Belzona® 1111 (Super Metal) was used to rebuild the substrate. Tube sheets are levelled on the milling machine after that. The application was then protected by 2 coats of Belzona® 4311 (Magma CR1). The corks are taken off with a drill. The tubes were then cleaned with compressed air.

Belzona Facts

This customer needed some supplier, which is able to make these repairs in short and guaranteed time also in perfect quality with high resistant coating. After the reassembling they required the pressure test with 8 bars water. Because Belzona® 4311 (Magma CR1) needs for completion of the molecular reaction with full chemical resistance 7 days at 20°C (but customer wants to get back these exchangers in 5 days), we had to use force curing 80°C in 4 hours.

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

ISO 9001:2015
Q.09335
ISO 14001:2015
EMS 509612

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