

# BELZONA'S CREATIVE APPROACH SAVES A REFINING COMPANY A LARGE LOSS IN REVENUE

ID: 7689

Industry: Chemical & Petrochemical  
Application: VPF-Valves, Pipes and Fittings  
Substrate: Cast steel

Customer Location: Refinery, Texas, USA  
Application Date: 2017

Products: \* Belzona 1161 (Super UW-Metal) ,  
\* Belzona 1121 (Super XL-Metal) ,  
\* Belzona 1221 (Super E-Metal) ,  
\* Belzona 1321 (Ceramic S-Metal) ,  
\* Belzona 4141 (Magma-Build) ,  
\* Belzona 9341 ,

## Problem

The water line had a welded patch fail. The line was leaking approx. 20 plus feet in the air and 40 feet across a road. The line was losing so much water that they were unable to perform a back flush of the cooling tower. Shutting the line down would result in a plant wide shut down at a cost of 1M dollars a day.



## Photograph Descriptions

- \* 1. Half wrap being blasted and prepped to have a wrap applied. ,
- \* 2. Belzona 1161 being applied. ,
- \* 3. Belzona 4141 applied to the come-alongs and chain and Belzona 1121 applied over Belzona 4141. ,
- \* 4. Applying the top layer of Belzona 1321 to encapsulate the repair. ,

## Application Situation

A 30" return line for a cooling tower.

## Application Method

Access to the repair was difficult due to several feet of gravel that had to be removed to get access underneath the pipe. The pipe was grit blasted in the application area. By use of a mini excavator, a fully assembled half wrap was positioned (Valve attached and seal on the underneath side) over the hole. Two chain come-alongs were put around the pipe and half wrap to hold down the half wrap and create a water tight seal around the neoprene seal. The neoprene seal left a 1 and 1/4 gap in-between the half wrap and

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ISO 9001:2015  
FS 695214  
ISO 14001:2015  
EMS 695213

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the pipe. Belzona 1161 was pushed in this gap from all sides until each side was filled. This was left to cure for a couple of days with the chain come-alongs left in place. A hose was connected to the gate valve to direct the lost water back to the cooling tower so that they could perform back flush procedures. Belzona 4141 was used to encapsulate the come-alongs and performed a wrap procedure with Belzona 1121 and Belzona 9341 to encapsulate the come-alongs. We then applied a layer of 1321 on top of the wrap for added protection.

## Belzona Facts

The Customer had considered various other options but they all called for a line shut down. The Belzona Technical Consultant provided a solution by creating a live bypass that allowed Belzona to be applied and cure.

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