

Pipe Strengthening with Belzona SuperWrap II

ID: 9330

Industry: Local Authorities & Municipalities

Customer Location: Toronto, Ontario

Application: VPF-Valves, Pipes and Fittings

Application Date: November 2020

Substrate: Carbon steel

Products: Belzona 1121 (Super XL-Metal), Belzona 1982 (SuperWrap II), Belzona SuperWrap II

Problem

A 60" carbon steel pipe that had suffered from external corrosion and metal loss over the years. The defective area was about 15 feet. They required a solution that would reinstate the structural integrity of the pipe.



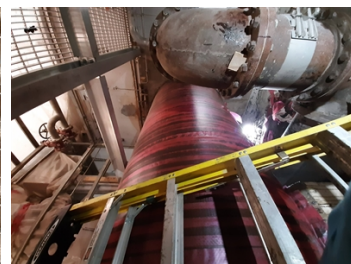
Corroded section of the pipe



Application of Belzona 1121



Wrapping in 4 feet sections



Wrap completed and consolidated with Belzona 9382

Application Situation

We used ASME PCC2 equations to estimate the number of wraps required to retrofit the pipe to design conditions. The defect was type A (thin wall), corrosion was external, and the pressure was relatively low (25 psi). 2 wraps of Belzona SWII were recommended to structurally reinforce the pipe and effectively stop corrosion on the pipe. This repair system can remain maintenance-free for up to 20 years.

Application Method

First, the pipe was grit blasted and prepared according to SSPC SP10. All the pitting and resurfacing was then done with Belzona 1121(Super XL-Metal) because of its longer overcoating time. The next day, they started applying Belzona SWII. They applied the wrap in 4 feet sections at a time, so every 4 feet they would consolidate the repair with Belzona 9382 and continue with the next section. Though the application was during colder climate, Belzona 1982 was chosen to give more working life and allow the crew to complete the application properly.

Belzona Facts

Customer received an ISO/ASME compliant repair system able to stop the corrosion, return the mechanical strength back to the water pipe and designed to provide a 20 year lifetime.

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