

Belzona Abrasion and Erosion Resistant System in a Circulating Water Pipe

ID: 10296

Industry: Power

Application: VPF-Valves, Pipes and Fittings

Substrate: Carbon steel

Products: Belzona 1311 (Ceramic R-Metal), Belzona 1331, Belzona 2221 (MP Fluid Elastomer)

Customer Location: Central Java, Indonesia

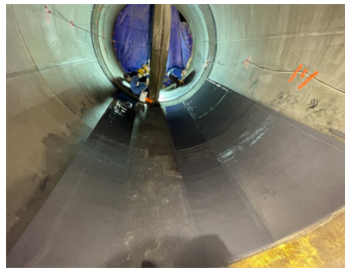
Application Date: July 2023

Problem

At a power plant in Central Java, Indonesia, rubber lining in circulating water (CW) pipeline spool have failed in early year of operations, due to wrong applications and potentially high flowrates of seawater. After one year of repair on the lining using an elastomeric material, the customer sought a repair for the entire piping system for a long-term protection.



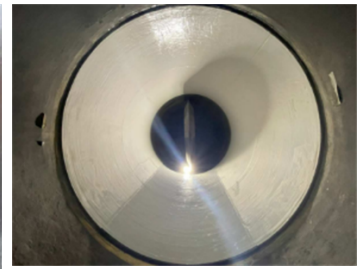
Rubber lining damage in a circulating water pipe



Application of Belzona 2221 (MP Fluid Elastomer) to restore the lining of the circulating water pipe



Rubber lining was removed before the application of a more permanent abrasion and erosion resistant system



Complete application of Belzona 1331 in the circulating water pipe

Application Situation

The first phase of the application used Belzona 2221 (MP Fluid Elastomer) to repair damaged rubber linings of the spool. One year after the rubber lining repair, the EPC company was seeking a more permanent solution for the entire area of the pipe. Thus, the rubber linings were removed before applying Belzona 1331 to create an erosion barrier for the circulating water pipe.

Application Method

The rubber lining repair was first carried out using Belzona 2221 (MP Fluid Elastomer) in early 2022.

Then, in July 2023, Belzona 1331 was specified as a more permanent solution to the entire pipe as per the following steps:

1. Before applying Belzona 1331, the rubber lining with Belzona 2221 (MP Fluid Elastomer) was removed.
2. Then, grit blasting with Garnett Mesh 20/40 was used for surface preparation.
3. Belzona 1311 (Ceramic R-Metal) was used to repair pitting damage on the steel substrates.
4. Then, Belzona 1331 was mixed and applied by hand, using a squeegee brush.
5. Once the application was completed, a Holiday test with Elcometer 236 was conducted to confirm compliance with application standards.

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

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

Belzona products are
manufactured under an ISO
9000 Registered Quality
Management System.

www.belzona.com

BELZONA
Repair • Protect • Improve

Belzona Facts

Before the current repair, the customer had achieved successful results using the Belzona repair system, giving them confidence to select Belzona for the CW pipe repair at the power plant. Belzona distributor worked closely with the EPC contractor and Belzona technical team to develop a solution that met the customer's tight shutdown schedule. The successful application of the rubber lining using Belzona 2221 (MP Fluid Elastomer) further demonstrated the system's effectiveness, leading the customer to adopt Belzona 1331 for the entire spool to provide durable, long-term corrosion protection.

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

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

Belzona products are
manufactured under an ISO
9000 Registered Quality
Management System.

www.belzona.com

