

BELZONA ABRASION AND EROSION RESISTANT SYSTEM IN A CIRCULATING WATER PIPE

ID: 10296



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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.

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.

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.

INDUSTRY

Power

LOCATION

Central Java, Indonesia

APPLICATION DATE

July 2023

PRODUCTS

Belzona 1311 (Ceramic R-Metal)

Belzona 1331

Belzona 2221 (MP Fluid Elastomer)

SUBSTRATE

Carbon steel

PHOTOS

1. Rubber lining damage in a circulating water pipe
2. Application of Belzona 2221 (MP Fluid Elastomer) to restore the lining of the circulating water pipe
3. Rubber lining was removed before the application of a more permanent abrasion and erosion resistant system
4. Complete application of Belzona 1331 in the circulating water pipe

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