

Belzona 1813 as a Reliable Solution for a Vertical Coal Mill Discharge Pipe Operating at 200°C at a Thermal Power Plant

ID: 10311

Industry: Power
Application: VPF-Valves, Pipes and Fittings
Substrate: Carbon steel
Products: Belzona 1813

Customer Location: Tadali, Chandrapur, India
Application Date: December 2017

Problem

At a coal-based thermal power plant, a vertical coal mill discharge pipe was punctured due to severe coal particle erosion in an interval of 6 months. The pipe was replaced in annual shutdown every year. There was no other solution than to do the patch work from the mill outside or arresting small pulverised coal leaks using sodium silicate. Prior to Belzona application, the customer has also tried competitor's product which failed after one month of application.



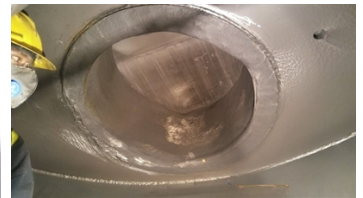
Application of Belzona system in a confined space



Inner view of mill discharge pipe



Application of Belzona 1813 in a coal mill discharge pipe



Damage prior to application, condition after 1 year

Application Situation

The application was done inside the discharge pipe, a very confined space. The scaffolding was installed to facilitate the application. Belzona 1813 was recommended for its excellent resistance to coal particle. The application took around 24-32 hours to complete, together with surface preparation stage. Inspection after one year confirmed most areas remained intact, with a few sections showed reduced thickness or exposed base metal. These areas were subsequently restored through patch repair.

Application Method

1. Surface preparation in the confined space inside the vertical discharge pipe was carried out using grinders and emery paper, followed by Belzona cleaner.
2. Belzona 1813 was then applied and allowed to cure.

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FS 695214
ISO 14001:2015
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Belzona products are
manufactured under an ISO
9000 Registered Quality
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Belzona Facts

The customer previously used a competitor's product, which was claimed to have properties similar to Belzona. However, the repair failed after only one month of service. They also evaluated the use of weld-overlay wear plates as an alternative, but determined that this approach was not feasible due to the associated application risks.

The application of Belzona 1813 provides a more practical and reliable solution, particularly in confined spaces such as the discharge pipe. In addition, any localized defects or damaged areas can be easily repaired using a simple patching application, minimizing downtime and simplifying maintenance.

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