Elbow Head Internal and external Lining

ID: 10408

Industry:	*Chemical & Petrochemical*	Customer Location:	*Dammam Saudi Arabia*
Application:	*VPF-Valves, Pipes and Fittings*	Application Date:	*May 2026*
Substrate:	*Carbon steel*		
Products:	*Belzona 1111 (Super Metal),Belzona 1341 (Supermetalglide),Belzona 5831 (ST-Barrier)*		

Problem

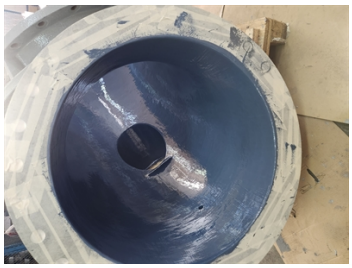
The elbow head is part of the vertical pump that operates in a saltwater environment. The elbow was suffering from severe corrosion and erosion and needed a solution that can last for a long time. Welding or hot work was not an option; replacement would take too much time, and the customer needed a fast solution.



Elbow before blasting



Elbow after blasting



Application of Belzona 1341 to the Internal Surfaces



Application of Belzona 5831 to the External Surfaces

Application Situation

Belzona 1111 was used to fill the pitting and rebuild the damaged metal surfaces. This was followed by the application of two coats of Belzona 1341 to the internal surfaces and two coats of Belzona 5831 to the external surfaces.

The entire repair was completed in just three days. In comparison, replacing the equipment would have taken several months, while conventional welding repairs could have introduced the risk of further cracking.

Furthermore, alternative coating systems were unable to withstand the harsh chemical environment of the process media. The Belzona solution therefore provided a durable alternative, helping the customer avoid costly replacement, minimise downtime, and achieve significant time and cost savings.

Application Method

Blasting was carried out to achieve a near-white metal finish and a minimum surface profile of 75 µm, in accordance with the Belzona Instructions for Use (IFU).

Belzona 1111 was then applied to rebuild the areas of deep pitting and restore the substrate profile prior to coating. The Belzona 1111 surface was subsequently sweep blasted on both the internal and external surfaces to provide a suitable surface profile for

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

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coating application.

Finally, two coats of Belzona 1341 were applied to the internal surfaces, while Belzona 5831 was applied to the external surfaces.

Belzona Facts

The Belzona repair solution helped the customer avoid costly replacement and minimise downtime. It also provided an alternative to hot work, which would have presented additional challenges for the customer. The repair was completed within just three days, allowing the equipment to be returned to service.

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