Pipeline Weld Joint and Fitting Protection Using High-Performance Coating System

ID: 10261

Industry:	*Power*	Customer Location:	*EPCOT, Orlando, Florida, USA*
Application:	*VPF-Valves, Pipes and Fittings*	Application Date:	*February 2026*
Substrate:	*Carbon steel*		
Products:	*Belzona 5892*		

Problem

The pipeline weld joints were exposed after fabrication and showed signs of surface contamination and early-stage corrosion. These areas are critical points where insufficient protection can lead to accelerated corrosion, coating failure, and long-term asset deterioration, especially under exposure to elevated temperatures and harsh environmental conditions.



Pipeline weld joint in shop environment with masking applied to define precise coating boundaries prior to application.



Pipeline section on stands with weld joints masked and first coat of Belzona 5892 applied, establishing a base layer for corrosion protection.



Wet film thickness (WFT) measurement taken during application of Belzona 5892 on the pipeline weld band using a calibrated wet film thickness gauge, confirming the applied film build is within the specified application range.



Pipeline sections staged on adjustable stands in a controlled shop environment after coating application, ensuring uniform coverage and consistent long-term protection across all weld joints.

Application Situation

The coating application was completed in a controlled shop environment, allowing optimal surface preparation, consistent application conditions, and improved quality control.

This approach minimized environmental variables, reduced rework, and ensured uniform coating thickness across all weld joints.

ISO 9001:2015
FS 695214
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Compared to field application, the shop process improved efficiency, reduced installation time on-site, and enhanced overall coating performance and reliability.

Application Method

All weld joints were abrasive blasted to achieve the required surface cleanliness and profile for optimal adhesion.

The areas were then masked to define coating boundaries and ensure a controlled application. Belzona 5892 was applied in multiple coats to achieve the required thickness and long-term protection.

Coating thickness was verified using calibrated DFT gauges, ensuring consistent build-up and compliance with project specifications. The application was carried out using standard hand tools and inspection equipment within a controlled shop environment.

Belzona Facts

Belzona 5892 provided a high-performance coating solution capable of withstanding elevated temperatures while delivering excellent adhesion and corrosion protection.

The system eliminated the need for traditional methods such as re-coating or component replacement, reducing downtime and overall maintenance costs.

Its application in a controlled environment ensured consistent quality, long-term durability, and reliable protection of critical weld joint areas.

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