Pipeline Weld Joint Protection Using Low-Temperature Coating System

ID: 10262

Industry:	*Power*	Customer Location:	*EPCOT, Orlando, Florida, USA*
Application:	*VPF-Valves, Pipes and Fittings*	Application Date:	*March 2026*
Substrate:	*Carbon steel*		
Products:	*Belzona 5831LT*		

Problem

The pipeline weld joint areas were exposed and showed signs of corrosion, surface contamination, and coating breakdown. These areas are critical points where insufficient protection can lead to accelerated corrosion, coating failure, and long-term asset deterioration, particularly in buried and harsh environmental conditions.



Environmental conditions monitored using a calibrated temperature and humidity gauge to ensure suitable parameters for the application of Belzona 5831 LT.



Application of Belzona 5831 LT over prepared weld joint using brush technique, ensuring full coverage and proper build-up around the critical transition area.



Wet film thickness measurement being carried out during application of Belzona 5831 LT, ensuring proper coating build-up and uniform coverage over the weld joint.



Pipeline sections after full application of Belzona 5831 LT, demonstrating uniform coating coverage and complete protection of weld joints in field conditions.

Application Situation

The client required a reliable solution to protect pipeline weld joints under field conditions, including low temperature application constraints.

Belzona 5831 LT was selected due to its ability to be applied on minimally prepared surfaces and cure effectively at lower temperatures, reducing downtime and simplifying the application process.

This approach minimized operational disruption while ensuring long-term corrosion protection.

Application Method

The weld areas were mechanically prepared to remove loose contamination and ensure a sound substrate. Surfaces were then masked to define the application area and maintain controlled coating boundaries.

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

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Belzona 5831 LT was applied directly onto the prepared surfaces, forming a protective barrier over the weld joints.

Environmental conditions, including temperature and humidity, were monitored using calibrated gauges to ensure proper application parameters for low-temperature curing.

The system was applied using hand tools, ensuring full coverage and proper encapsulation of the weld areas.

Belzona Facts

Belzona 5831 LT provided a surface-tolerant coating solution capable of being applied and cured at low temperatures without the need for abrasive blasting.

This significantly reduced downtime, labor requirements, and application complexity in field conditions.

The system created a durable barrier against moisture, corrosion, and environmental exposure, extending the service life of the pipeline and ensuring reliable long-term performance.

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