

Pipework protection at a clean water site with Belzona 5831

ID: 10291

Industry: Water / Wastewater
Application: VPF-Valves, Pipes and Fittings
Substrate: Carbon steel
Products: Belzona 5831 (ST-Barrier)

Customer Location: Bradford
Application Date: June 2026

Problem

At an operational wastewater treatment facility, sections of external steel pipework were experiencing progressive corrosion. This deterioration was driven by continuous exposure to moisture combined with challenging atmospheric conditions typical of such environments.

The pipework in question carries water at a lower temperature than the surrounding air, leading to frequent and persistent condensation forming on the surfaces. This ongoing wet-dry cycle significantly accelerates corrosion rates, compromising the integrity of the steel substrate over time. Without intervention, the assets would be at risk of further degradation, potential failure, and increased maintenance demands.



Pipework exhibiting surface corrosion due to ongoing condensation and moisture exposure



Degraded external surfaces showing clear signs of corrosion under challenging atmospheric conditions



Completed application of protective coating system, restoring and protecting the pipework



Pipework successfully protected with a corrosion-resistant coating, ensuring long-term durability

Application Situation

A protective coating solution was required to provide long-term corrosion resistance while being applied in a live, operational environment. The presence of constant surface condensation presented a key challenge, as traditional coatings may struggle to achieve adequate adhesion under damp conditions.

The application area included pipework, along with associated fittings such as bolts and flanges, all of which were exposed to the same aggressive environmental conditions. Surface preparation needed to be achievable using power tools due to access and operational constraints, while still providing a suitable profile for coating adhesion.

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Product selection was therefore critical, with the chosen system needing to tolerate less-than-ideal surface conditions, adhere effectively to prepared steel, and provide durable protection against ongoing moisture exposure and corrosion.

Application Method

Surface preparation using power tools. Cleaning of prepared surfaces to remove contaminants and debris. Application of two coats of Belzona 5831 (ST Barrier) in accordance with manufacturer guidelines. Full coverage applied to pipework, including bolts and flanges. Coating selected for its suitability in condensation-prone environments

Belzona Facts

Belzona 5831 (ST Barrier) delivers long-term corrosion protection in aggressive and moisture-rich environments. It is designed to perform on damp and condensation-affected surfaces, extending asset lifespan, reducing maintenance and replacement costs

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