

# Belzona Coats Aging Carbon Steel Pipeline

ID: 9196

Industry: Water / Wastewater  
Application: VPF-Valves, Pipes and Fittings  
Substrate: Carbon steel  
Products: Belzona 5821

Customer Location: New Zealand  
Application Date: 2023

## Problem

The customer was looking for a coating system for lining carbon steel pipe work predominantly for the new construction of pipe bridges, pump stations, and booster stations within the wastewater network rated for abrasive environments.



The carbon steel pipes that needed to be coated



Damage to aging pipe



Internal coating of Belzona 5821 on pipe



Two coats of Belzona 5821 applied onto external pipes

## Application Situation

This application is ongoing as the water infrastructure upgrade work will continue throughout New Zealand for 30 years or so, at a cost of more than NZD\$200 Billion. A typical month for us would be 60 – 100 lineal metres of pipework ranging from 80mm through to NB600.

## Application Method

We use spin blasting equipment with A grade garnet to gain the best internal profile as possible and then use spin spray equipment attached to the latest WIWA 71:1 pump equipment with an inline heater.

We have a computer controlled device that works on surface area to be coated, volume of material delivery from the pump, and diameter of the pipe to adjust the pull rate to ensure a high degree of accuracy for the 5821 delivery concerning uniform aesthetics and final DFT of the lining. Belzona 5821 is a ceramic-filled epoxy system that is reasonably cost-effective for large surface areas given that it is a relatively thin film coating system and is applied in two coats. The 5821 also has very good abrasion resistance yet is still a sprayable formulation. The 5821 is applied via spin spray for spools of internal diameters ranging from 76mm – 1m. All spools over 1m in diameter are sprayed by hand.

## Belzona Facts

The application has been performing very well to date. The main competition put forward by competitive manufacturers has been

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

Belzona products are  
manufactured under an ISO  
9000 Registered Quality  
Management System.

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high-build epoxies. The lining systems are put forward using a function of coating thickness to combat abrasion. As these products are not formulated for an abrasive environment, they do not have the long-term performance characteristics of ceramic-filled systems that we could provide.

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