

# BELZONA BRIDGE REPAIR PLATE BOND

ID: 5889

Industry: Buildings & Structures  
Application: VPF-Valves, Pipes and Fittings  
Substrate: Carbon Steel  
Products: \* Belzona 1121 (Super XL-Metal) ,  
\* Belzona 1151 (Smoothing Metal) ,

Customer Location: Canada  
Application Date: August 2015

## Problem

Water leaking inside the bridge box girder had caused excessive corrosion. Pits, through-wall defects and thin areas were in need of reinforcement. Due to extreme corrosion in the area adjacent and including the splice plates, welding was not an option. Bolting plates and using Belzona to reinforce the irregular surface was the best course of action.



## Photograph Descriptions

- \* View of the bridge ,
- \* Belzona 1121 being applied to perimeter ,
- \* Injection of Belzona 1151 ,
- \* Completed Application ,

## Application Situation

Bonding reinforcing plates to steel box girder bridge.

## Application Method

Carbon steel plates were fabricated as per design. Holes were drilled into the plates and spaced out as per design for bolting purposes. Injection ports were strategically located on the plates. Belzona 1121 was used to seal the perimeter of the plates. Once the plates were fixed to the steel wall, Belzona 1151 was injected through injection ports. The Belzona materials were allowed to cure in accordance with appropriate Instructions For Use.

## Belzona Facts

Belzona was chosen because of its history and exceptional performance with plate bonding. The asset owner commissioned laboratory testing for evaluating the performance of Belzona 1151 sandwiched between two metallic plates under compression load service. Four 1.5"x1.5" specimens were loaded until a sudden drop in load or visual failure of the product was observed. The

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FS 695214  
ISO 14001:2015  
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manufactured under an ISO  
9000 Registered Quality  
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average failure load for the specimens was 85,300 lb-f, equivalent to 37,911 psi. The asset owner was very pleased with the results.

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