

Sulfuric Acid Requires A Belzona Solution

ID: 10347

Industry: Steel & Metal Processing
Application: VPF-Valves, Pipes and Fittings
Substrate: Carbon steel
Products: Belzona 4311 (Magma CR1)

Customer Location: Sand Springs Oklahoma
Application Date: August 2026

Problem

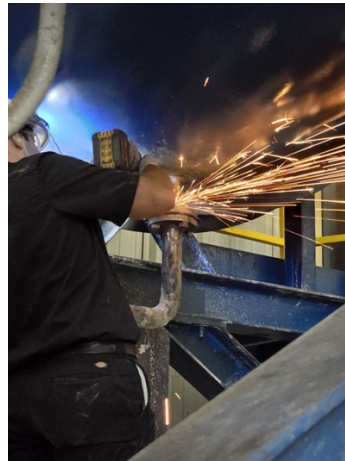
A 6" long 2" nozzle on the bottom of the sulfuric acid tank had developed a 1" hole in the middle on one side. The tank was immediately drained and the customer needed a repair solution that was quick and reliable. The customer has a history of using Belzona materials in other areas, so we were brought in to find a solution.



The damaged nozzle.



Prepped sleeves to be used to bond over the hole. They were bonded into place using Belzona 4311.



Prepping the nozzle.



Application complete with multiple wraps of Belzona 9341 reinforcement sheet and Belzona 4311.

Application Situation

The other option that had been discussed was cutting the nozzle off and welding in a new one. Due to the presence of the sulfuric acid and access limitations, they wanted an easier, more reliable option, and Belzona was chosen after researching the material options and discussing the application process.

Application Method

The sulfuric acid was neutralized and rinsed off several times. The surface was prepped using hand tools. First was a wire wheel to remove any loose corrosion or surface contamination. Then a grinder was used to roughen the surface with an irregular profile. This also allowed us to get close to the existing hole without damaging it further. The Belzona 4311 was used to wet out the surface and the doubler saddles. The saddles were positioned for best coverage of the hole and slipped into place. Once aligned, the Belzona 9341 reinforcement tape was thoroughly wetted out and wrapped in multiple layers around the doubler saddles and over the

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FS 695214
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length of the nozzle. Excess material was then brushed over adjacent areas as well which had also been prepped in advance.

Belzona Facts

Belzona 4311 is resistant to sulfuric acid and was an easy choice for this application as it is also versatile and can be used for both a bonding agent and can be used with Belzona 9341 for a strengthening wrap. This application was performed by the customers in-house maintenance team along with the consultant. This situation was used as a training, and since the customer has additional materials left over from this application, should another leak or need for repair arise, they will be able to respond on their own and solve the problem.

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