

Belzona SF6-FIX System Stops SF6 Leak

ID: 9351

Industry: Power
Application: VPF-Valves, Pipes and Fittings
Substrate: Aluminum
Products: Belzona 1981 (SuperWrap II), Belzona SuperWrap, Belzona 7311

Customer Location: Avon, Bristol
Application Date: February 2024

Problem

The Customer has many assets which contain SF6 as an insulating gas. The gas is used in pipework where power distribution lines are enclosed within. As SF6 has 23,500 times greater potential for global warming than CO2 as a greenhouse gas, it is of great interest to the customer to stop any leaks and potential harm to the environment.

Multiple previous repairs methods and materials have been used by other companies in the past, however they have not been fully successful at sealing the leaks or maintaining a seal.



Previous repair was leaking SF6 gas around the edges of the bond area.

Previous repair removed, Substrate prepared using bristle blaster and membrane installed.

Belzona 7311 applied to breather membrane with Belzona 9341 incorporated. 5x layers of Belzona 9371 utilising Belzona 1981 resin.

SF6 containment completed with vent pipe left open until full cure is achieved. This is then capped off following full cure.

Application Situation

Belzona was asked to remove a previous competitor repair and solve the problem of the leaking SF6, without draining the system to enable power distribution to continue. This meant no downtime to the distribution of power throughout the network.

Application Method

Previous repair is removed using Grinders, Multi-tools with various blades and hand tools.

Substrate is MBX (Bristle Blasted) using stainless steel wheels to remove residual repair and provide profile.

Application area is degreased .

Backer rod is installed around bolts to provide a smoother landing area around the bolts for the installation of the breather membrane.

Breather pipe and 3D printed base are glued onto existing flange spacer before being covered in breather membrane, allowing breather pipe to protrude.

A combination of Belzona 7311 and Belzona 1981 and Belzona 9371 are used to encapsulate the flange.

The breather pipe is left venting until all materials have reached full cure. Once full cure had been achieved it is capped off and

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

Belzona products are
manufactured under an ISO
9000 Registered Quality
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allowed to pressurise equal to the rest of the system.

Belzona Facts

SF6 leaks are highly fined at Approximately £2,000 per KG due to it's environmental impact, so to stop a leak saves the customer thousands in any future fines.

Belzona solution was trialed in real world situation and found to be successful.

Previous competitor repairs were able to seal leaks, but later failed and released captured SF6.

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