

Belzona Custom Engineered Solution Reduces SF₆ Emissions from Critical 132kV Junction

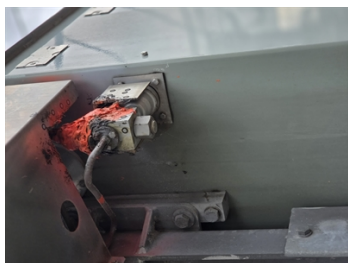
ID: 10330

Industry: Power
Application: GSS-Gaskets, Seals and Shims
Substrate: Other
Products: Belzona 1981 (SuperWrap II), Belzona 7311

Customer Location: Pontefract
Application Date: July 2026

Problem

An ongoing SF₆ gas leak from a junction within the 132kV electrical distribution system. Due to the unusual location, previous attempts to stem the leak had been made to stem the leak, but did not deliver a permanent solution and gas emissions continued from the affected fitting. As SF₆ is used as an insulating medium within high-voltage electrical equipment, uncontrolled leakage can lead to increased maintenance requirements, environmental concerns and potential impacts on asset reliability.



Previous repairs had been attempted and failed due to unusual positioning



A bespoke containment box was fabricated to fit around the junction



Belzona 7311 was injected into the void space to completely fill the cavity and eliminate any trapped air



Significantly reduced, and where possible eliminated, SF₆ gas emissions from the leaking junction.

Application Situation

Initial inspection revealed that the leak was originating from a fitting where previous repair materials had already been applied. As part of the proposed works, these materials would need to be removed to expose a suitable substrate for a long-term repair solution. Due to the complex geometry and condition of the component, Belzona's standard SF₆ repair system was deemed unsuitable. Instead, a bespoke engineered approach was developed, involving the fabrication of a custom composite containment box designed specifically to encapsulate the leaking fitting and provide a reliable containment solution.

Application Method

Existing repair materials were removed and the substrate prepared accordingly. A bespoke Belzona composite containment box was fabricated and secured around the leaking fitting, incorporating a vent pipe to allow controlled venting during installation. Once in position, Belzona 7311 was injected into the void space to completely fill the cavity and eliminate any trapped air that could create

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FS 695214
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potential leak paths. Following cure, a full inspection was carried out the next day before sealing the vent pipe to complete the repair installation.

Belzona Facts

Significantly reduced, and where possible eliminated, SF₆ gas emissions from the leaking junction.

Avoided the need for costly asset replacement and associated operational disruption.

Custom-engineered solution overcame geometric challenges that prevented the use of standard repair methods.

Extended the operational service life of critical 132kV infrastructure.

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